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S. HRG. 100-787

THE CONCLUSIONS AND RECOMMENDATIONS OF THE PRESIDENT'S "WORKING GROUP ON FINANCIAL MARKETS"

HEARING

BEFORE THE

COMMITTEE ON BANKING, HOUSING, AND URBAN AFFAIRS UNITED STATES SENATE

ONE HUNDREDTH CONGRESS

SECOND SESSION

ON

ACTIONS RECOMMENDED TO ENHANCE THE INTEGRITY, EFFICIENCY, ORDERLINESS, AND COMPETITIVENESS OF OUR NATION'S FINANCIAL MARKETS AND TO MAINTAIN THE CONFIDENCE OF INVESTORS, BOTH LARGE AND SMALL

MAY 24, 1988

Printed for the use of the Committee on Banking, Housing, and Urban Affairs

U.S. GOVERNMENT PRINTING OFFICE

88-456 WASHINGTON : 1988

For sale by the Superintendent of Documents, Congressional Sales Office
U.S. Government Printing Office, Washington, DC 20402

S241-4

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THE CONCLUSIONS AND RECOMMENDATIONS OF THE PRESIDENT'S "WORKING GROUP ON FINANCIAL MARKETS"

TUESDAY, MAY 24, 1988

U.S. SENATE,
COMMITTEE ON BANKING, HOUSING, AND URBAN AFFAIRS,
Washington, DC.

The committee met at 10 a.m., in room SD-538, Dirksen Senate Office Building, Senator William Proxmire (chairman of the committee) presiding.

Present: Senators Proxmire, Riegle, Dodd, Dixon, Sasser, Sanford, Shelby, Graham, Wirth, Garn, Heinz, D'Amato, Hecht, Gramm, Bond, Chafee, and Karnes.

OPENING STATEMENT OF CHAIRMAN PROXMIRE

The CHAIRMAN. The committee will come to order.

The Congress and the American people have waited for 60 days with hope that the Working Group on Financial Markets would make a meaningful and serious attempt to address the problems of our stock market system dramatized by the October 19 stock market crash more than 7 long months ago. The report, released last week, with the exception of Chairman Ruder's thoughtful dissents, is very disappointing.

This Working Group has been the regulatory equivalent of the North Carolina Tar Heels basketball strategy called the "four corners offense." Pass the ball around to run out the clock. Never shoot, just stall and run out the clock.

It appears that the independent regulators before us today, with the exception of SEC Chairman Ruder, have let themselves be drawn into the web of Presidential politics by the administration. They have been party to the tactic of running out the clock on the congressional legislative calendar. You have let down the American people at a critical time.

The progress that you have made is pitiful. This 60-day turf battle tea party produced no action on the question of margin authority. We're not even talking about the level of margins, mind you, just margin authority. Every stock-related instrument except stock index futures has margin authority vested in some governmental regulatory agency. You sidestepped the question. Instead you put forth the smoke screen conclusion about the adequacy of the margins as a performance bond. That was not even an issue.

I see from your report that three out of four of you believe that the margin authority should be invested in some governmental

agency. Ironically, it was the CFTC's Ms. Gramm who provided the dissenting vote when the CFTC was the likely candidate to receive such authority.

Because the Working Group does not have the legal authority and responsibility to make changes, a 3 to 1 vote is meaningless. The one vote wins because the majority does not rule. These squabbles over margin illustrate the need to create an accountable authority to make the decisions on intermarket issues. Otherwise, the tough decisions required to induce the necessary changes in our market systems will continue to be avoided.

Quite simply, we are in the process of adapting our stock market system to the innovations represented by derivative instruments. The question is, at what pace are we going to adapt our regulatory and market systems to make each of them appropriate to the new realities of the marketplace.

Those who fear that Congress will unknowingly overregulate the system have misplaced anxiety. This Senator has no intention of specifying the details of market regulation. We must let the experts in the area make the decisions. But they have to make those decisions.

My aim in the legislation that I have put forth with my colleagues is to make sure that there is an accountable entity with both the responsibility and the expertise to make the decisions on intermarket issues. Only then will the pace of adjustment be adequate and only then will key aspects of this problem cease to fall between the regulatory cracks.

I intend to go forward with an updated version of S. 2256 and hold a markup of that legislation in the next few weeks after consulting with my colleagues on this committee. The inactivity of the working group has cost us precious time. But that delay is now over. It is time to return to meaningful reform of our stock market system in the time we have left this year.

The stock market is not just a gambling casino. It is the foundation of capital formation for our economy. The future productivity of our economy depends upon capital formation. Improvements in our international competitiveness depend upon capital formation.

The increased volatility of the stock market since the crash has scared off individual investors who represent close to 65 percent of the market. Pollster Albert Sindlinger estimates that nearly 20 percent of the individual investors have left the market since the crash. Initial public offerings and secondary market offerings have virtually dried up since October 1987.

The malfunctions of our capital market could not come at a worse time. We desperately need to promote equity capital formation in our overleveraged, debt-laden economy. There is very little equity cushion for our Nation's firms to rely on to ride out the next recession. If our economy turns down given the current structure of corporate balance sheets we could find ourselves awash in corporate bankruptcies. In the 7 months between the October crash and last May 9, corporate equity issues dwindled to $1.3 billion. In the corresponding 7 months in the preceding year equity issues were $10.7 billion. The erratic volatility of the market diminished equity issues by a sickening 85 percent. For American business head over heels in debt the American capital markets are failing to meet

their fundamental mission, which is to provide equity capital on a stable and reliable basis to American business. The Treasury task force has stalled an effective remedy of this tragic situation for 60 additional days and now comes forward with a do-nothing solution.

Senator Garn.

Senator GARN. Mr. Chairman, I would ask unanimous consent that my statement be placed in the record and I would just summarize with a few remarks.

The CHAIRMAN. Without objection, so ordered.

OPENING REMARKS OF SENATOR GARN

Senator GARN. I suppose as I look at this situation it is not too different than most of what I look at with Congress lately is we see so many people who think the solution to every problem that comes up lies here in Congress.

I haven't been here nearly as long as you have, Mr. Chairman, but in the 14 years I have been here I have seen much more centralization in every facet of our lives here in Washington. If not proven by any other fact, by the fact that more and more organizations, trade associations, businesses, individual businesses, have to have a Washington presence. The bureaucracy of lobbyists has grown by astronomical amounts since I have been here because they feel that the only way they can defend themselves or promote themselves must be to have a Washington presence.

For all the talk in the Republican administration about less centralization—and I used to talk about being the local manager for the Federal Government when I was mayor of Salt Lake City and not really the elected mayor, just finding out what the regional headquarters wanted me to do, and we all talked about lessening that—but the opposite is true. I think this is another example because it is such a highly visible thing—October 19, Black Monday, all the wonderful things that go with it—and some people are so sad that the whole world didn't collapse, all of their statements at the time about what would happen have not happened. They're surprised and amazed that the economy is still growing and all of that.

My point is that we usually overreact, if for no other reason, for the perception that Congress must do something because look at all the press has said about October 19, so we must rush. I've made many speeches about how pleased I have been that, for once, Congress did not. We didn't pass something on October 25 or 26 just so that we would look good that we were doing something.

On the other hand, my criticism of this group is not the specific recommendations necessarily, but the fact that they weren't smart enough to realize the political implications. To come back with the recommendation that generally I might agree with for Congress to stay out of it, that we don't need new legislation, we can handle it other ways, is probably substantively correct. But to come back with nothing, anybody should have been able to predict, Mr. Chairman, what your opening statement would have been. Now I think we have just guaranteed, because there are no specific recommendations, that Congress will come up with a bill that will probably go further than it should.

Gentlemen and Ms. Gramm, you're probably correct in your substantive recommendations, but politically you have failed in reading Congress and what will happen. The reaction as soon as the new things came out last week or the initial representation of what you might recommend was so easy to predict of what the reaction would be here in Congress.

So I hope at the end of this process, whatever we come up with, it is reasonable, it is not an overreaction or an underreaction, but we have guaranteed that Congress will now do something. So the very fact that your recommendations are sort of leave it alone will guarantee that Congress will probably do much more than you wanted. So politically you have not been very wise.

Thank you, Mr. Chairman.

[The complete prepared statement of Senator Garn follows:]

MAY 24, 1988

OPENING STATEMENT BY SENATOR GARN

HEARING ON THE REPORT OF THE PRESIDENT'S WORKING GROUP ON FINANCIAL MARKETS

LAST WEEK THE PRESIDENT'S WORKING GROUP ON FINANCIAL MARKETS SUBMITTED ITS INTERIM REPORT RECOMMENDING REGULATORY CHANGES IN THE WAKE OF LAST OCTOBER'S STOCK MARKET PLUNGE. THE REPORT DESCRIBES SIGNIFICANT CHANGES THAT HAVE ALREADY BEEN IMPLEMENTED BY THE AGENCIES AND SELF-REGULATORY ORGANIZATIONS. IT ALSO CALLS FOR MORE CHANGES TO ENHANCE MARKET STABILITY IN RESPONSE TO THE SPECIFIC RECOMMENDATIONS OF THE SO-CALLED "BRADY REPORT."

I BELIEVE THE WORKING GROUP REPORT SHOWS THAT SUBSTANTIAL PROGRESS HAS BEEN MADE TOWARD ACHIEVING CHANGES THAT WILL HELP THE SYSTEM COPE BETTER WITH DRAMATIC PRICE SWINGS. IT IS ONLY AN INTERIM REPORT, AND AS IT RECOGNIZES, CONTINUED PROGRESS MUST BE MADE. BUT THIS IS A VERY ENCOURAGING BEGINNING THAT DEVELOPS MEASURED RECOMMENDATIONS AND CLEARLY SEEKS TO BUILD ON THOSE RECOMMENDATIONS. THAT IS A MUCH BETTER RESULT THAN REACTING BY REFLEX WITH RASH SOLUTIONS THAT COULD DO MUCH MORE HARM THAN GOOD.

THAT IS NOT TO SAY THAT I AGREE WITH ALL THE RECOMMENDATIONS OR THAT OTHERS SHOULD NOT BE IMPLEMENTED; I WILL WAIT UNTIL AFTER THESE HEARINGS ARE OVER TO MAKE UP MY MIND. BUT I WANT TO CONGRATULATE THE GROUP ON THE PROGRESS THAT HAS BEEN MADE IN SOME VERY DIFFICULT AREAS SUCH AS

COORDINATED "CIRCUIT BREAKERS" AND CHANGES TO THE CLEARING AND SETTLEMENT SYSTEM. DESPITE CHARGES TO THE CONTRARY, THOSE ARE VERY MEANINGFUL REFORMS.

OBVIOUSLY, SOME ISSUES REMAIN OUTSTANDING AND CONTROVERSIAL DESPITE THE WORKING GROUP'S RECOMMENDATIONS. THESE INCLUDE MARGIN REQUIREMENTS, CENTRALIZED REGULATION, AND EMERGENCY AUTHORITY TO TAKE EXTRAORDINARY ACTION IN TIMES OF SEVERE MARKET DROPS. WHETHER CONGRESS NEEDS TO TAKE ACTION ON ANY OF THESE ISSUES IS SOMETHING WE WILL UNDOUBTEDLY HAVE TO COME GRIPS WITH IN THE COMING WEEKS.

AGAIN, I APPLAUD THE GROUP FOR ITS PROGRESS AND URGE IT TO CONTINUE TO MEET AND DEVELOP ADDITIONAL RECOMMENDATIONS FOR PROBLEMS THAT REMAIN OUTSTANDING.

The CHAIRMAN. Thank you, Senator Garn.
Senator Dixon.

OPENING STATEMENT OF SENATOR DIXON

Senator DIXON. Mr. Chairman, at the outset I want to congratulate the members of the Working Group for producing a thoughtful and useful report. The report's recommendations are based on a realistic appraisal, in my view, of what operational changes can do and, more importantly, what they cannot do.

It makes very clear that while its recommendations will improve our financial markets' ability to respond to future large price movements, improvements in market operations cannot eliminate or even reduce market volatility, the large up and down price swings that everyone so rightly deplores.

It is therefore time for Congress to abandon its fixation on quick fixes, mechanical solutions, and instead focus on the real long-term issues. We need to look at the fundamental changes in our markets. We have a regulatory system that was created when individuals, not institutions, dominated trading. We need to consider whether that system works as well for markets dominated by institutions.

We need to look at tax considerations and see what role they place in investment decisions. We need to look at the law governing institutional fund managers to see whether their view of their fiduciary responsibilities creates incentives for them to trade stock rather than to hold it for investment.

If we use this time wisely, Mr. Chairman, instead of continuing to try to do the Working Group one better by second-guessing its recommendations on market operational issues, we can begin the process of restoring the confidence in our financial markets that was lost last October 19.

The CHAIRMAN. Thank you, Senator Dixon.
Senator Bond.

OPENING STATEMENT OF SENATOR BOND

Senator BOND. Thank you very much, Mr. Chairman.

I am very pleased that you invited members of the Working Group to come and address us and share with us their views and conclusions.

I think it's extremely important to keep in mind that what we have is only an interim report from the group and clearly it has not been able to resolve all of the outstanding issues. That's not surprising because the issues are not all subject to overnight resolution.

I am delighted that you are going to continue meeting because I view this as essentially a long incremental process.

I signed on to our chairman's bill, S. 2256, to signal my willingness to push for congressional action if the individual exchanges, self-regulatory organizations, and governmental regulators are not moving forward with needed reforms or if you seemed to be delaying. I think frankly what we have here is precisely what I would like to see, and that is an effective, strong Working Group. We had some discussions about having the Working Group which took au-

thority away from the individual regulatory agencies. I do not believe that that's needed, but I do feel that we have a responsibility to develop the mechanisms by which together the regulatory agencies will plan for and help to avoid future calamities such as almost befell us on October 19 and 20. I know of no better grouping of agencies nor individuals to lead that Working Group than those of you who are here as witnesses today.

We hope and I share with many other members of the committee the very strong hope that we are not going to have to have congressional action to specify changes in the marketplace. I don't think that that is something that we would do well. We do expect further action from you. We look forward to having answers from you ultimately on the major questions which have been raised not only by the larger investors but primarily by the individual investors, the small shareholders who we feel ought to have a major stake in America and whose savings ought to be put to work through the mechanisms of the markets.

Thank you again for being here and we look forward to learning more from you today.

The CHAIRMAN. Senator Gramm.

OPENING STATEMENT OF SENATOR GRAMM

Senator GRAMM. Mr. Chairman, let me say I'm struck by the difference between the debate that we've been involved in in the last 60 days and the debate that occurred immediately following October 19 of last year.

As you will recall, back then there was great concern about the economy, what the Congress could do to improve the situation, concern about the deficit and interest rates, concern about the impact that public policy was having on the national economy. The stock market crash was being viewed as a messenger and not as a message.

Since that time we have worked out a compromise that tripled the rate of growth in Federal spending, that raised taxes. We now are at a budget impasse because the Senate has figured out a way to cheat by about $3 billion on the budget deal and the House has figured out a way to cheat by about $6 billion, and we can't agree on how much cheating is acceptable.

Now all of a sudden in the midst of this inaction in responding to what was initially perceived to be the problem, we have Members of Congress—and especially Members of the House—who are saying to this group of people, "We want you to eliminate the uncertainty in the markets." Well, it seems to me, Mr. Chairman, that we're looking to the wrong source for the elimination of these uncertainties.

The uncertainties exist to a large extent because of what we do here in Congress. I'm not sure those uncertainties can nor ever will be eliminated. I want to go on record, however, in case this group is successful or Congress is successful in eliminating uncertainty by changing the law or by banning program trading, I for one don't want to stop there. I think maybe we ought to have a concerted policy to guarantee an annual rate of growth in equity values. If we can stabilize the market by eliminating computer trading, then

maybe eliminating the ballpoint pen and the telephone could raise market values.

But in any case, I think there is one clear problem that this group ought to be addressing and I think they largely have addressed it, and that is, whether we like it or whether we don't like it, the computer is here to stay. Whether we like it or whether we don't like it, large institutional traders are a part of the market system.

Now we can fool around and act as if we can wish it away or we can outlaw it, but it's a reality of the marketplace that we've got to deal with. To try to eliminate those forces is to assure that foreign markets are going to welcome a growing share of the world's financial market with open arms.

What we have got to do is develop a financial system that can absorb the volume that can potentially be created by the technological changes that have occurred in the last few years in equity markets. If we can do that, if we can prevent the market from failing, then it seems to me that it's up to those of us in public policy positions to try to provide the environment in which the market reflects the overall positive impact we're having on the economy. When we do that, it will go up. When we don't do that, it will depend on the underlying forces of the market system and its ability to overcome not only the illness but the absurd prescription of the doctor, in this case the doctor being the Congress.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Gramm.

Senator Hecht.

OPENING REMARKS OF SENATOR HECHT

Senator HECHT. Thank you, Mr. Chairman.

I just want to mention that in this day and age many people delight in running down public officials, but I think some of these individuals we have at this table today deserve a debt of gratitude from all of us. You were the right people at the right place at the right time and you acted very wisely on October 19.

October 19 has come and gone and the financial world did not come to an end. And again, I think that we should pay all of you a debt of gratitude for your wiseness and working under the worst possible conditions and acting very cooly.

The CHAIRMAN. Senator D'Amato.

OPENING STATEMENT OF SENATOR D'AMATO

Senator D'AMATO. Mr. Chairman, I welcome the participants today. I think there are some very real questions as to the adequacy of the protections that are afforded the investing public. I think we would be darned fools to say that all is well.

There are a lot of vested interests. I certainly have gone to bat for the investment community, particularly those out of Wall Street. It's important to my State and it's important to the Nation and it's with that viewpoint of attempting to see to it that a system that has provided capital formation, that has given an opportunity for hundreds and hundreds of billions of dollars to be invested with a certain confidence level, that we want to attempt to review all

that has taken place and to deal with any inadequacies that may have triggered the kinds of wild swings and gyrations that had nothing to do with soundness of investment.

Now if indeed some of the market manipulations or some of the programs that have been put into effect constitute market manipulation, then we'd better recognize it. If indeed as former Secretary Don Regan indicated and it would appear that his testimony was bolstered and supported by George Ball, chairman of Prudential Bache, that the program trading as implemented with the futures indices, and so forth, exacerbated and created the kind of difficulties where maybe specialists just simply cannot handle the kinds of volumes and sales and orders that are triggered in, we'd better look at it.

Indeed, if it's a problem of an antiquated system on the street, where specialists are not able to keep up with the flow and have got to computerize, it may be that the day of the black box is necessary and we'd better get to the bottom of it.

I would suggest that it's not a question of outlawing the ballpoint pen or use of the computer, but if someone really thinks that all is right with the system that can be manipulated as it has been, then we're going to deceive ourselves and the markets will move to those areas where people may feel that they are going to get greater protection, greater value for their investment.

I think it's terribly important that the working group focus in on some of the problems that they have been dealing with. But more particularly, to come up with some answers as it relates to some rather I think revealing testimony from our last panel. I'd like to get some answers. I'd like to know what about the specialists, do they have the kind of capital, do they have the kind of technique to deal with the huge volumes that can be triggered in at a moment's notice? How do you handle that?

There are special interests. I don't use that in the pejorative, but there are people who have great stakes here and I think that the American people have got to have the answers and I think that we need the answers and I would hope that we could get some focusing in on really the meat of it instead of better coordination, and so forth, and those kinds of things.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator D'Amato.

Senator Sanford.

OPENING STATEMENT OF SENATOR SANFORD

Senator SANFORD. Thank you very much, Mr. Chairman.

Thank you for being here to testify today. I must say that all along I have been opposed to doing too many things too quickly or to reacting in panic, but it seems to me that the reaction to the market break has been far more relaxed than it ought to be and I continue to be disturbed that we do not have a market that is accomplishing what the market ideally should be accomplishing, and that is the formation of capital.

I think the evidence is that the market simply has not been serving that purpose as well as it ought to. The market was designed to serve a great many investors and, more important than that, it was

designed to serve the economy and to make capital available. We have been so carried away with pursuing liquidity at the expense of the true depth of the market that we have gained the greater liquidity but we may very well have crippled the market and its ability to raise capital for productivity, competitiveness, for business, and capital industry generally, and I don't think it's just press hype. I think that puts the blame where it doesn't belong. Politicians are accustomed to blaming the press, but the truth of the matter is that there haven't been the new offerings that we ought to be finding in an economy that we're told is booming, and it seems to me that we haven't gone after the basic questions of why the market acts so irrationally, maybe why the market is overpriced, the question of whether or not, if it is overpriced, is it caused by some external factor that we ought to look at that maybe needs more regulation? There's no question that purchasers into the market have changed with the growth of great retirement funds and tremendous amounts of money that have to be placed. But, what does that do to the basic function not just of liquidity in the marketplace but the function of helping create new productivity?

I don't know that we've looked carefully enough at why the market went up. Maybe there's nothing we can do about it or nothing we want to do about it, but what is it that's made the market so volatile, and I don't think that question has been confronted really at all.

I notice with a great deal of interest the appendix E to the working group's report. It highlights the actions taken by the self-regulators, but it also seems to me to indicate that these were taken without coordination, more or less independently of one another, and with all of our talk about coordination, we still haven't seen very much coordination.

So I go back to what I said initially. I don't think we ought to be frantic. We ought not to act with undue haste. But I frankly don't think we are getting at the heart of the problem and I'm going to listen with a great deal of interest to the testimony, Mr. Chairman. Thank you.

The CHAIRMAN. Thank you, Senator Sanford.

Senator Karnes.

OPENING REMARKS OF SENATOR KARNES

Senator KARNES. Thank you, Mr. Chairman.

I am looking forward with great interest to the comments of the panelists today and applaud their efforts in the past for working to making the public aware of the issues that are confronting the capital market system.

I am particularly interested in hearing the comments today about the level of investor confidence at this point in time, your perceptions, and also a perception that I have had noted to me time and time again is the perception of whether or not an individual investor can get a fair shake in the market with all the other activities that are taking place, with the big players, if you will. So I'm looking forward to the testimony today and I echo the concerns of my colleague from North Carolina about the purpose of the

market which is raising capital as well as providing an opportunity for people to invest in America, but invest in America in a fashion that they will have an opportunity to compete fairly with other investors.

So I applaud your efforts to date and look forward to your comments.

The CHAIRMAN. Thank you, Senator Karnes.

Senator Heinz.

OPENING STATEMENT OF SENATOR HEINZ

Senator HEINZ. Mr. Chairman, I'll be very brief. I do want to welcome this distinguished panel. They are all experts and we know them all well. I commend them for having done a lot of work.

I want to say to them, though, that their recommendations are about as diminimus as I can imagine and it troubles me that so many good people could come up with so little. And I say that because I don't think you have to be an expert in the market to understand that there has been a lot of speculative action in the market, probably on the up side as well as on the down side, that was most evident, but not only confined to October 19; and that there have very little in the way of recommendations aimed at dampening the speculative aspects and pressures and devices that are at work.

Back in late October of last year, I introduced legislation to give the Federal Reserve the authority to set margin requirements on all securities products and derivative securities products. It was not the first time that's been suggested and it probably won't be the last time it's suggested at the rate we're going. But clearly, having more comparable margins between the various markets is one way of minimizing speculative activity. There are others, such as I suppose requiring physical delivery of shares underlying futures contracts. But what we have been told on many previous occasions is that anything we do along those lines, increasing margin requirements and options or futures or requiring physical delivery or taking other actions that would actually slow down the speculative fires on which the market has fed or which has from time to time burned it up, what we're told is that's going to interfere with liquidity. And I thought to myself, well, here's Alan Greenspan, he's an expert in liquidity. I mean, he can supply liquidity like nobody in the world. When he does, Bill Proxmire and the rest of us get pretty upset because another word for liquidity is printing money. There are other ways to do it, but that's one of the ways you do it.

When I hear the right to increase volatility being defended because it is a means of supplying liquidity, I ask myself, how different is that from the Federal Reserve just spinning the printing presses several hundred RPM's faster? That's liquidity, too.

And yet none of us—I don't think any of us—are for that.

Another related issue is if these unusual relationships that we have between markets or between the futures market and the stock market is supplying liquidity, one would think that the result of this liquidity would be a good market in which new issues could come to market because the essence of the American enterprise system is to have a market in which you can seek and find capital,

hopefully at a reasonable price so you can build a business and build America.

Certainly, we're not in great shape in that regard. But by another measure, which is really the other side of the same coin, the process by which capital has usually been supplied to the equities market, which is by Americans, small investors taking their cash, their savings, and investing it in the market, those people have said, "Hell, no, I'm not going to go. I'm going to keep my money someplace else," but the last place they are putting it is in the equities market.

Therefore, if somehow liquidity is being preserved, it is being preserved in a way that it is driving investors out of the market, and that is some new-fangled definition of liquidity that I would really like to hear justified—that the purpose of liquidity is to get the people who are supposed to buy shares out of the market. That's standing the notion of liquidity on its head.

Now that's the problem with all of us, I suspect, is that we're too damned bright. We can argue anything. We can convince ourselves and our colleagues of the absolute logical or moral rectitude of our positions and we can miss the big picture. I hope we won't do it today. Thank you.

The CHAIRMAN. Thank you very much. Before we begin I have a statement from Senator Sasser to be inserted in the record.

[The opening statement of Senator Sasser follows:]

Jim Sasser

STATEMENT OF SENATOR JIM SASSER, SENATE BANKING COMMITTEE, MAY 24, 1988

MR. CHAIRMAN, THANK YOU FOR ASSEMBLING THIS VERY DISTINGUISHED PANEL TO DISCUSS THIS MOST IMPORTANT SUBJECT. I UNDERSTAND THAT THE WITNESSES WILL EXPLAIN WHAT THEY THINK SHOULD BE DONE IN RESPONSE TO THE OCTOBER STOCK MARKET CRASH.

MR. PRESIDENT, THIS IS A CLASSIC EXAMPLE OF THE EFFECT THAT THE PASSAGE OF TIME CAN HAVE ON A SITUATION. I TOOK A FEW MONENTS THIS MORNING TO LOOK AT THE BRADY COMMISSION REPORT OF LAST JAUNUARY. A DOCUMENT THAT I CONSIDERED TO BE VERY WELL DONE; ONE THAT I THOUGHT CONTAINED MANY SIGNIFICANT RECOMMENDATIONS.

THE BRADY REPORT CONVEYED A SENSE OF URGENCY; INDEED, A SENSE OF URGENCY THAT I FIND ALMOST COMPLETELY MISSING FROM TODAY'S TESTIMONY.

I DON'T THINK THAT SENATOR BRADY HAS CHANGED HIS MIND ABOUT US LOOKING DOWN THE BARREL OF A GUN. OR HIS CONTENTION THAT A COUPLE OF INSTITUTIONS LED THE MARKET DOWN ON OCTOBER 19TH. OR ABOUT THE "MELT DOWN" THAT SUPPOSEDLY HAPPENED ON TUESDAY OCTOBER 20TH. OR THAT FACT THAT MILLIONS OF SMALL INVESTORS WERE BURNED.

MR. CHAIRMAN, I DON'T THINK THAT TOO MANY SMALL INVESTORS ARE GOING TO FIND TOO MUCH SOLACE IN THE ONLY RECOMMENDATION OF THIS GROUP -- THAT THE MARKETS BE CLOSED WHEN THE DOW DROPS 250 POINTS. THAT IMPLICITLY IMPLIES THAT 100 OR 150 POINT SWINGS ARE TO BE EXPECTED.

THIS LEVEL OF VOLATILITY WHEN IT IS COMMONPLACE SCARES SMALL INVESTORS. IT SCARES THEM AWAY FROM A MARKET THAT WE NEED THEM IN IF COMPANIES ARE GOING TO BE ABLE TO RAISE MONEY FOR LONG TERM INVESTMENTS.

TODAYS TESTIMONY SEEMS PARTICULARLY OUT-OF-PLACE WHEN WE READ NEWS REPORTS ABOUT THE LACK OF LIQUIDITY IN THE MARKET -- SOMETHING THE NEW YORK TIMES BELIEVE COULD EASILY CAUSE ANOTHER SHOCK. WHEN THE MAJOR BROKERAGE HOUSES ARE CURTAILING PROGRAM TRADING FOR THEIR OWN ACCOUNT. AND WHEN AUTHORITIES ON THE MARKET TESTIFY IN THIS COMMITTEE THAT "THE MARKET IS RIGGED."

MR. CHAIRMAN, I THINK WE HAVE MUCH WORK TO DO. I LOOK FORWARD WITH INTEREST TO TODAY'S TESTIMONY. THANK YOU.

Our first witness is the chairman of the task force, Secretary Gould. Secretary Gould, go right ahead, sir. Let me suggest if you can possibly confine your oral remarks to 10 minutes, we would very much appreciate it. We have a large panel and we have many questions we would like to ask.

STATEMENT OF GEORGE D. GOULD, UNDER SECRETARY FOR FINANCE, DEPARTMENT OF THE TREASURY

Mr. GOULD. Yes, sir, I will do that. I have my remarks here which I will read, but I am tempted, Mr. Chairman, before I read them—and I'm sorry some of the other Senators have left—to suggest that there is a lack of history in these comments. There is a lack of understanding of facts, perhaps of reading the reports. There is a confusion about the function of markets which runs through this among critics which I think shows serious impediments to making the right decisions. I would be happy in the Q and A to explore that further.

BANK LOANS VERSUS LIQUIDITY

A word "liquidity" has very different meaning when it's bank loans versus liquidity in markets for equities investments. There are a number of these things that should be explored, but before people sit in judgment, I really think they should take the time to look at some of history, look at some of the tables in the back of my own testimony as to volatility, as to prior market declines. I think they are revealing. There are monthly numbers on initial public offerings which are revealing which show a substantial recovery since late October.

Those are facts and in this discussion I think facts are very important.

Nonetheless, it is a pleasure to be here, Mr. Chairman.

The CHAIRMAN. I'm sure it is, Mr. Gould.

Mr. GOULD. As you know, I have spent my life in markets and I would like a little credit for some of the insights of 35 years.

During the past 2 months, the principal members of the Working Group and our respective staffs have analyzed and discussed the extensive information and recommendations emanating from last October's market decline.

Collectively, our recommendations address basic safety and soundness issues, should lessen the risk of systemic problems, and as a result, work to the benefit of all investors.

Our focus has been on actions that can be taken now, immediately, as contrasted with possible legislative restructuring that is subject to protracted debate and possible delay. Fortunately, the Working Group identified ways to act affirmatively without legislation.

Although this committee has an enviable record of moving legislation, Mr. Chairman, as witnessed by the 94 to 2 vote on the Proxmire Financial Modernization Act, the members of this committee will recall that it took 2 years to enact the administration's proposal to recapitalize the Federal Savings and Loan Insurance Corporation. Even then, we did not get the full amount requested to resolve insolvent institutions and today we hear numerous cries for a taxpayer bailout.

The key issues identified by the Brady Commission, the GAO, the SEC, the Commodities Futures Trading Commission and others, on which the Working Group has taken constructive action are spelled out in our report to the President and which I can address during the questions and answers.

It is essential, however, to understand the premise from which these conclusions evolved. The Working Group views its primary mission as taking collective safety and soundness actions now which would substantially lessen possible systemic dangers to the U.S. financial system if we were again to encounter a severe stock market decline. Consequently, the Working Group's recommendations are key ingredients to prevent stock market declines from degenerating into self-feeding panics.

While markets will always react to changes in fundamental economic information, it is important to assure all investors as to the proper functioning of the financial system while such information is being digested in terms of market pricing. Indeed, reducing concerns over the viability of the mechanics and infrastructure of the system could mitigate the extent of market declines by reducing the risk premium inherent in those extreme situations where market participants worry about receiving full and timely payments. Hence, our emphasis on safety and soundness issues during the first 60 days of our work.

The issue of daily volatility, although an expressed public concern, is not in the same category of systemic threat, in my opinion. However disconcerting volatility can be on a short-term basis, markets must be allowed to adjust to new price levels without impediments to efficiencies that in themselves cause disruptive market action.

Some observers believe that the individual investor has left the market because of a perception of increased volatility. It is equally possible that much of the retreat is in fact investors' collective views that the bull market has paused or that more attractive alternative investments are available. Individual investors have "left the market" in the wake of other major market declines. I point particularly to the mid-1970's after the 1973–74 market decline which was more severe than the one we have just experienced. Those individuals who want to own equities but are concerned about competing with large, sophisticated pools of capital can, if they wish, invest through them in mutual funds and pension funds rather than trying to compete with them. I refer again to any set of statistics which show the growth of mutual funds in this country particularly in the last 5 years.

We must recognize that investor withdrawal during such bear markets is a fact of life, reaffirmed recently in a New York Times article which I have noted in my testimony.

MARKETS REACT QUICKLY TO CHANGES

There are numerous factors that have made markets react more quickly today to changes in the fundamental determinants of stock prices. First, the nature of stock ownership has changed substantially over the past 20 years, led by private and public pension funds. There have evolved very large aggregations of capital of a

size unknown in an earlier period. This, in turn, has led to changes in the techniques of managing such capital. Thus, the stock index futures markets have evolved as the lowest cost, most efficient response to these changed needs. "Trading the market" and hedging are not in and of themselves either good or bad. They are economic facts that are not going to go away.

It is not the futures products themselves that are called into question; rather, it is the behavior of large institutional investors and larger traders, for example, Fortune 500 companies, union pension funds, mutual funds, et cetera, that comes into play. I must admit, too, that I have some difficulty in my own mind when it comes to legislating behavior modifications of that magnitude.

Second, benefits of active futures markets are real. For example, they apply directly to the Treasury's capital raising function in the issuance of Treasury securities. Without the Treasury futures market, we would have been unable, I believe, at efficient cost to the taxpayer to have raised the amount of money required in recent years.

Third, with the index futures markets having exhibited greater volume in the underlying stocks than the cash market exchanges, it can be argued that the CME has become a leader, rather than a follower, in price discovery of equity market value levels.

Fourth, while it is true that index arbitrage can translate buying or selling pressure from one market to another, if those markets are truly economically linked and responding to the same fundamentals, then such arbitrage serves the useful purpose of quickly equalizing the price levels between the markets. It is worth noting in this context that the proposal of the New York Stock Exchange for trading baskets of stock on the NYSE would itself produce "index arbitrage" between the value of the basket and the underlying stocks—but this arbitrage would be within the NYSE. What often is overlooked in discussions of arbitrage is that if there were no linkage of the markets, then more selling or buying could spill over into the cash markets directly. If the futures market were to disappear from this country, pressures on the stock market would only increase. I would point out, if I may, that in chapter 3 of the SEC's report, there are some very interesting statistics in terms of volume of selling in the cash market and they point out that one pension fund on October 19 and 20 sold the equivalent of 19 million shares in the futures market but 36 million shares in the cash market. So with the selling pressures, if the futures market was not there, the spillover effect into the cash market could be substantial.

Much public criticism of index arbitrage is a classic case of wanting "to shoot the messenger" that brings the bad news of selling on the CME to the floor of the New York Stock Exchange.

Fifth, the volatility many people blame on index arbitrage could also be evidenced from direct selling in the cash market. In fact, pressures directly on cash markets are clear from history. Earlier in the postwar periods before the index futures markets came into existence in 1982, the Dow Jones Industrial Average had a number of significant declines as outlined in exhibit C of my testimony. While individual share ownership is an important part of our financial system and should be encouraged, we cannot expect to be

able to legislate normal human behavior—any more than we should be expected to protect the revenues of brokerage firms by attacking symptoms rather than causes.

Sixth, the aggregation of capital is a factor today in global markets, just as the phenomenon of rapid information dissemination also is important to recognize.

Finally, the Wall Street broker/dealer specialist business has become increasingly capital-intensive.

If I may be permitted a personal comment, I would like to point out that when I started in Wall Street in 1951, a million shares traded on the NYSE in 1 day was a big event. Wall Street was like a private club, and a rather exclusionary club at that. No one worked very hard, competition was limited, individuals were as important as institutions, the U.S. economy was dominant, and the New York Stock Exchange was the market of the world. There is more than a little nostalgia for those times that influences today's debates about how markets should function.

I would suggest, however, that the Wall Street of an earlier time also had its drawbacks and never could have accommodated the demands of a growing U.S. economy without itself changing. Those changes continue, particularly in an internationally competitive world.

ACTION BY THE WORKING GROUP

In summary, Mr. Chairman and members of the committee, the Working Group has commenced action on a number of significant steps that collectively will work to reduce systemic threats to our financial markets. In so doing, we have pursued a sizable portion of the agenda defined in large measure by the Presidential Task Force on Market Mechanisms, the so-called Brady Report, as highlighted in exhibit D of my testimony; as well as that of other market observers. Indeed, Senator Brady concluded his recent public letter with a position that in fact has been the operating basis of the Working Group:

> We are not attempting to legislate against decline or interfere with the smooth functioning of the markets. The market will always seek its level ground; we are only trying to assure that it gets there safely.

The collective and coordinated actions recommended by the Working Group—and corrective steps already taken by others—help to assure that the market in fact does "get there safely" when it moves for whatever reasons.

We cannot legislate against market declines, regulatory dictates cannot eliminate volatility, and executive fiat is no more effective. Price controls and capital controls have never worked effectively in this country and no amount of government control can sway markets if underlying economic fundamentals—or investor perceptions of those same fundamentals—take the market one direction or another.

Moreover, it is unrealistic and ultimately counterproductive to attempt to roll back developments in financial markets brought about by advancements in telecommunication and computer technology and by changes in investment needs. We cannot go back to the days of the abacus or mechanical adding machines.

The CHAIRMAN. Mr. Gould, could you wind up in about a minute?

Mr. GOULD. Yes, sir. If we did—by trying to legislate against particular products—then we would ultimately lose whatever competitive edge we now have to places like Toronto, Tokyo, or London.

Mr. Chairman, I would like to commend the staff work of the group as well as the hard work of the principals and I feel in a reasonably short timeframe they have accomplished a great deal.

We feel the public has been well served by this effort. We look forward to the continuation of the group and the challenge it presents. Thank you.

[The complete prepared statement of Mr. Gould follows:]

TESTIMONY OF THE HONORABLE
GEORGE D. GOULD
UNDER SECRETARY FOR FINANCE
U.S. DEPARTMENT OF THE TREASURY
BEFORE THE
COMMITTEE ON BANKING, HOUSING, AND URBAN AFFAIRS
UNITED STATES SENATE
TUESDAY, MAY 24, 1988

Good morning, Mr. Chairman, Senator Garn, and Members of the Committee. It is a pleasure for me to testify on the progress made by the President's Working Group on Financial Markets.

During the past two months, the principal members of the Working Group and our respective staffs have analyzed and discussed the extensive information and recommendations emanating from last October's market decline. Far from being a stalling device as some have criticized, the Working Group has moved forward, after much deliberation, on a number of critical issues to preserve the integrity, competitiveness and efficiency of our nation's financial markets.

Our focus has been on positive actions that can be taken now -- immediately -- as contrasted with possible legislative restructuring that is subject to protracted debate and possible delay. Fortunately, the Working Group identified ways to act affirmatively, without legislation. Although this Committee has an enviable record of moving legislation, Mr. Chairman -- as witnessed by the 94 to 2 vote on the Proxmire Financial Modernization Act -- the Members of this Committee will recall that it took two years to enact the Administration's proposal to recapitalize the Federal Savings and Loan Insurance Corporation. Even then, we did not get the full amount requested to resolve insolvent institutions and today we hear numerous cries for a taxpayer bailout.

Collectively, the Working Group's action proposals address basic safety and soundness issues, should lessen the risk of systemic problems, and as a result, work to the benefit of all investors. The key issues -- identified by the Brady Commission, the General Accounting Office (GAO), the Securities and Exchange Commission (SEC), the Commodity Futures Trading Commission (CFTC), and others -- on which the Working Group has agreed unanimously and has taken constructive action include:

- an agreement on coordinated "circuit breakers" across markets to allow for cooling-off periods during times of extreme price declines;

- recommendations and conclusions on the credit, clearing, and payments system to ensure the necessary coordination of information and operations within and between markets and to avoid systems gridlock;

- agreement that current minimum margin requirements provide an adequate level of prudential protection to the financial system; and

- agreement on contingency planning, including the continuation of the Working Group, to ensure coordination and consultation in the event of future, rapid market disturbances.

I also am pleased to report that the securities, futures, and options industries already are making -- and should continue to make -- significant efforts to enhance operational capacity, to increase individual firm and clearinghouse capital, and to improve the fairness and quality of order executions for all investors, large and small.

THE NEED TO REDUCE SYSTEMIC PROBLEMS

The specific conclusions and recommendations are contained in the Working Group's interim report to the President, which accompanies my testimony. It is essential, however, to understand the premise from which these conclusions evolved.

The Working Group views its primary mission as taking collective, safety and soundness actions which would substantially lessen possible systemic dangers to the U.S. financial system if we were again to encounter a severe stock market decline. Consequently, the Working Group -- acting on the most significant suggestions of the Brady Report and others -- views coordinated circuit breakers, prudential margins across markets, the proper functioning of credit, clearing, and payment systems, and contingency planning as key ingredients to prevent stock market declines from degenerating into self-feeding panics.

While markets will always react to changes in fundamental economic information, it is important to assure all investors as to the proper functioning of the financial system while such information is being digested in terms of market pricing. Indeed, reducing concerns over the viability of the mechanics and infrastructure of the system could mitigate the extent of market declines by reducing the risk premium inherent in those extreme situations where market participants worry about receiving full and timely payments. Hence, our emphasis on safety and soundness issues first during these past 60 days.

Daily Volatility Is Not A Systemic Threat

The issue of daily volatility, although an expressed public concern, is not in the category of systemic threat, in my opinion. However disconcerting such volatility can be on a short-term basis, it is important not to attempt cures that can do more harm than good. Markets must be allowed to adjust to new price levels without impediments to efficiency that in themselves cause disruptive market action. Narrow price limits for circuit breakers, causing frequent market shut downs, would be an example of such self-defeating "cures".

Moreover, volatility is a subject which often has been treated publicly with more emotion than analysis. It must be noted that, with the exception of the period October 1987 through January 1988, there is no evidence of any increase in daily volatility. Volatility from 1983 through 1986, during which time the futures market was growing rapidly, was moderate to low as compared to similar prior periods. This is illustrated in Exhibit A. I should note that since February 1988, daily price volatility has returned to levels such as were seen in 1973, 1974, 1975, 1980, and 1982, and which are statistically indistinguishable from the norm for 1971 through 1986. In any case, we must be cautious in ascribing events of those few months of extraordinary volatility to changes which have been in place for some time or in extrapolating that those events will be the new norm in the future.

Some observers believe the individual investor has left the market because of a perception of increased volatility. It is equally possible that much of the retreat is in fact investors' collective views that the bull market has paused or that more attractive alternative investments are available. Individual investors have "left the market" in the wake of other major market declines (e.g., in the mid 1970s). Those individuals who want to own equities but are concerned about competing with large, sophisticated pools of capital can, if they wish, invest through them (e.g., mutual funds and pension funds) rather than trying to compete with them.

We must recognize that investor withdrawal during such bear markets is a fact of life, reaffirmed recently in a New York Times article which states in part:

> Investor disillusionment with the stock market is not a new phenomenon. Typically, investors withdraw each time there is a bear market -- contributing to the bleak mood. After the almost 50 percent drop in the value of stocks during the 1973-74 bear market, for

instance, many individuals fled the market and stayed out until the bull market of the 1980's.

The number of individual shareholders who owned stocks on the New York Stock Exchange fell to 25.2 million in 1975 from 30.8 million in 1970. The number of shareholders of mutual funds dropped to 7.8 million in 1980 from 8.4 million in 1970, according to estimates by the Investment Company Institute.

Numerous Factors Cause Markets to React More Quickly Today

There are numerous factors that have made markets react more quickly today to changes in the fundamental determinants of stock prices. First, the nature of stock ownership has changed substantially over the past twenty years, led by private and public pension funds. There have evolved very large individual aggregations of capital of a size unknown in an earlier period.1/ This, in turn, has led to changes in the techniques of managing such capital, often with an emphasis on the market as a whole (e.g., the S&P 500) rather than individual stocks. In the case of major broker/dealers, the need for trading liquidity by large bodies of capital has also increased the need for hedging techniques by corporate treasurers and money managers. Thus, the stock index futures markets have evolved as the lowest cost, most efficient response to these changed needs. "Trading the market" and hedging are not in and of themselves either good or bad -- they are economic facts that are not going to go away.2/

It is not the futures products themselves that are called into question; rather, it is the behavior of large institutional investors and large traders (e.g., Fortune 500 companies, union pension funds, mutual funds, etc.) that comes into play. I must admit, too, that I have some difficulty in my own mind when it comes to legislating behavior modifications of that magnitude.

1/ At the end of 1987, U.S. private pension fund assets totalled almost $1.5 trillion and U.S. public pension fund assets were approximately another $500 billion. By comparison, total pension fund assets were approximately $820 billion at the end of 1986.

2/ 1987 statistics for the largest 200 pension funds show that a growing percentage of their assets (11.8%) is in stock index funds. A growing percentage of these pension funds (36%) also uses stock index futures.

Second, benefits of active futures markets are real: for example, they apply directly to the Treasury securities market. Treasury futures are used as hedging vehicles and as a cost-saving means to adjust positions in the underlying securities. These risk-reducing benefits of futures markets lead to a reduction of the risk premium investors require on the underlying Treasury securities and thus to lower interest costs for the Federal Government.

For an excellent discussion of the increasingly significant role of derivative products -- particularly futures on stock indexes -- in the securities markets, members of the subcommittee really should review Chapter Three of the SEC's Staff Report "The Effects of Derivative Products" (The October 1987 Market Break) which I have attached as Exhibit B of my statement.

Third, with the index futures markets having exhibited greater volume in the underlying stocks than the cash market exchanges, it can be argued that the Chicago Mercantile Exchange (CME) has become a leader -- rather than a follower -- in price discovery of equity market value levels. Cash market prices are now often following, rather than leading, the so-called derivative market. The Brady Report and others have underscored the close economic linkage between these markets. Thus, the public debate over the role of index arbitrage is often misdirected. Index arbitrage only takes place when there is a difference of price level between the cash and futures markets, and such arbitrage, as in its age old role, helps equate those price levels.

Fourth, while it is true that index arbitrage can translate buying or selling pressure from one market to another, if those markets are truly economically linked and responding to the same fundamentals, then such arbitrage serves the useful purpose of quickly equalizing the price levels between the markets. It is worth noting in this context that the proposal of the New York Stock Exchange (NYSE) for trading baskets of stock on the NYSE would itself produce "index arbitrage" between the value of the basket and the underlying stocks -- but this arbitrage would be within the NYSE. What often is overlooked in discussions of arbitrage is that if there were no linkage of the markets, then more selling or buying could spill over into the cash markets directly. If the futures market were to disappear from this country, pressures on the stock market would only increase. The Brady Report takes note of such selling when the linkage broke down in October.

Much public criticism of index arbitrage is a classic case of wanting "to shoot the messenger" that brings the bad news of selling on the CME to the floor of the NYSE. If selling is

going to take place to a degree that pushes prices down sharply, then cash markets will not be made immune by eliminating index arbitrage. The emphasis, therefore, should be on increasing the capacity of systems like the Designated Order Turnaround (DOT) system of the NYSE so that the public has fair and equal access to order transmission, rather than on restricting mechanical linkages between economically-linked markets.

Put another way, if there were no index futures market, then there would be no index arbitrage. But there is no evidence that such a condition would give the cash markets immunity from selling pressure generated by responses to fundamental events -- and no likelihood that having developed to meet a large and important investment need there will not be a viable index futures market, whether here or abroad.

Fifth, the volatility many people blame on index arbitrage could also be evident from direct selling in the cash market. In fact, pressures directly on cash markets are clear from history. Earlier in the postwar periods before the index futures markets came into existence in 1982, the Dow Jones Industrial Average (DJIA) had a number of significant declines as outlined in Exhibit C of my testimony. In fact, the 1973-74 bear market was worse than the 1987 decline; while it took longer, the end result was that price levels reacted to fundamental perceptions and adjusted accordingly. While individual share ownership is an important part of our financial system and should be encouraged, we cannot expect to be able to legislate normal human behavior -- any more than we should be expected to protect the revenues of brokerage firms by attacking symptoms rather than causes.

Sixth, the aggregation of capital is a factor in today's global markets, just as the phenomenon of rapid information dissemination also is important to recognize. The world now has the technological systems -- and therefore the ability --- for almost instantaneous response to any event. This provides another type of aggregation in the form of concerted buying or selling. While market liquidity has increased greatly in recent years, clearly some greater volatility can be intrinsic to concerted action. Eliminating information technology -- either by legislation or regulatory fiat -- hardly seems like a realistic reaction to concerns about volatility.

Finally, the Wall Street broker/dealer/specialist business has become increasingly capital-intensive. Since 1975, when fixed-rate commissions were ended, a notably larger percentage of revenues are now a function of capital returns rather than commission income. With capital risk thus less protected by a cushion of commission income, there is a tendency for block

houses and specialists to become more risk averse in their bids during uncertain times. This, too, can lead to greater volatility.

Evolution in the Face of Change is Necessary

If I may be permitted a personal comment, I would like to point out that when I started in Wall Street in 1951, a million shares traded on the NYSE in one day was a big event. Wall Street was like a private club, and a rather exclusionary club at that. No one worked too hard, competition was limited, individuals were as important as institutions, the U.S. economy was dominant, and the NYSE was the market of the world. There is more than a little nostalgia for those times that influences today's debates about how markets should function.

I would suggest, however, that the Wall Street of an earlier time also had its drawbacks and never could have accommodated the demands of a growing U.S. economy without itself changing. Those changes continue, particularly in an internationally competitive world. It would be a mistake to focus only on the fall-outs of those fundamental changes when attempting to determine whether structural modifications are needed for the markets themselves.

Strong Agency and SRO Action Needed Against Frontrunning and Market Manipulation

Before I turn to our recommendations, I want to take a minute to comment on an issue about which I feel strongly. Virtually all of the reports voiced concerns about customer protection, particularly in the areas of intermarket frontrunning and market manipulation. For example, the Brady Report recommended development of an extensive trading information system for the stock markets to better diagnose developing problems and uncover abuses. The CFTC staff urged establishment of standards for identifying potential intermarket frontrunning trading patterns and a mechanism -- perhaps the Intermarket Surveillance Group -- for the timely and effective communication of market surveillance data related to possible frontrunning activity among all exchanges with common self-regulatory interests. The SEC recommended strengthening current prohibitions and working with the CFTC and self-regulatory organizations (SROs) to ensure that adequate intermarket information is available to pursue such matters.

The Administration fully agrees that vigorous action against problems of intermarket frontrunning and market manipulation is essential. Along with the benefits of new products, technologies, and trading strategies have come increased opportunities for abuse by market professionals and insiders.

These abuses have hidden economic costs in addition to their more obvious effect on smaller individual and institutional investors who come to believe that the rules are rigged against them. We deplore this situation and expect the regulators and SROs, who are in the best position to take affirmative action, to continue to do so. They already have made significant progress:

- The CME has just circulated a proposed definition of frontrunning to futures industry representatives;
- The NYSE recently notified its members that trading futures based on knowledge of impending orders in the stock market is a violation of exchange rules. The NYSE plans to provide the futures exchanges with audit trail information on stock trading that would enable the Chicago futures markets to conduct ongoing surveillance for frontrunning; and
- The American Stock Exchange (Amex) has recently implemented systems to automatically monitor option trading for frontrunning, mini-manipulation, and pegging and capping. The Amex also is developing an expert system which uses artificial intelligence software to analyse potential insider trading market manipulation cases.

It is in the best interest of all investors concerned that the problems of frontrunning and market manipulation be resolved quickly and effectively by the agencies and SROs. Such action is crucial if we take seriously the charge that markets are rigged to the disadvantage of the small investor.

RECOMMENDATIONS

Let me now briefly summarize the Working Group's recommendations and conclusions. Our efforts have focused so far on six subjects which are described in more detail in our report to the President.

1. Continuing Coordination

The Working Group believes that its continuation is an excellent way to coordinate what should be an on-going process to address intermarket issues. The Brady Report and others have recommended that some additional regulatory mechanism be established to resolve these issues. Recognizing this concern for coordination, we believe cooperative efforts under the existing regulatory structure will continue to be effective, and in large measure, fulfill the intent of several legislative proposals. The very existence of this group has helped to keep

the pressure on the various SROs and market participants to devise and implement necessary reforms on their own.

2. Circuit Breakers

In addressing coordinated trading halts and reopenings, so-called circuit breakers, the Working Group has focused on market events that are so dramatic as to trigger ad hoc closings of equity markets and to pose potential systemic risks to our financial system. The Working Group has devised a cross-market mechanism to avoid ad hoc and destabilizing market breaks, recognizing that any disruption of trading is undesirable.

Our proposal is designed to substitute planned for unplanned, ad hoc trading halts, without increasing the overall frequency of such disruptions. Planned halts should allow time for the dissemination of information and consideration of decision to buy or sell in rare situations in which panic conditions threaten.

3. Prudential Margin Requirements

The Working Group reached agreement on several key points regarding prudential margins and concluded that:

- current minimum margin requirements provide an adequate level of protection to the financial system, although they do not cover all possible price movements, and that margins sufficient to cover all possible price movements would have unacceptable costs for the liquidity and efficiency of markets;
- there are additional protective cushions in place from capital requirements and surveillance for firms and clearinghouses; and
- given differences in price volatility of stocks and indexes and grace periods for settling margins, a consistent and harmonious margin regime among markets would produce significantly higher levels of margin for stocks than for futures.

The positions of the Working Group members on the need for margins in excess of the prudential level, and of the need for federal oversight, are set forth in the report to the President.

4. Credit, Clearing, and Settlement

As former Senator Nicholas Brady, who chaired the President's Task Force on Market Mechanisms, indicated recently, extreme stress on our clearing and credit systems came close to damaging our financial system last October. While a complicated and technical area, our financial system's network of clearing, credit, and settlement procedures truly is the nuts-and-bolts that allow hundreds of millions of transactions to be conducted and financed on a daily basis.

The Working Group has reviewed existing clearing, payments, and settlement systems to identify and set priorities for measures that they recommend be taken to reduce uncertainty, increase coordination, to assure confidence in the integrity of such systems, and to facilitate their smooth operation in volatile markets.

The Working Group endorses the view that the proper functioning of these systems is integral to the proper functioning of the financial markets as a whole and is pleased to report that significant progress has been made in this area. As more fully set forth in the report to the President, the Working Group is proposing an agenda of additional measures to be pursued to achieve the goal of more perfectly coordinated systems.

5. Contingency Planning

The Working Group believes that the purpose of contingency planning is to ensure that regulatory agencies and the SROs have in place systems which will allow them to identify emerging problems quickly and to react appropriately in the event of a market crisis. In an important sense, the Working Group recommendations for implementing circuit breakers, improving information flows, clarifying credit arrangements, and strengthening the clearing and settlement process can be viewed as a key part of contingency planning. By improving the market system's ability to withstand and react to shocks, these measures will enhance the system's first line of defense.

Going beyond this, the Working Group has given high priority to enhancing channels of communication among staffs of the respective regulatory agencies and the Treasury. In addition, staff of the three agencies are working jointly to improve information sharing across the agencies, with particular emphasis on a framework for coordinated monitoring of exposures and developments at major market participants. Finally, regarding international policy coordination, steps are being taken by the

various agencies to strengthen existing contacts with their counterpart authorities in other major market centers to further improve this aspect of market surveillance.

6. Capital Adequacy and Systems Capacity Enhancement

Market participants, SROs, and regulatory agencies have taken or are planning a number of significant actions to enhance financial integrity and improve automated systems -- two of the issues the Working Group, the Brady Report, the GAO and others have identified as critical to the financial integrity and smooth functioning of the markets. Our report to the President cites the many constructive steps already taken in these areas. The Working Group encourages these efforts and will continue to monitor developments to ensure that needed improvements are made.

CONCLUSIONS

In summary, Mr. Chairman and Members of the Committee, the Working Group has commenced action on a number of significant steps that collectively will work to reduce systemic threats to our financial markets. In so doing, we have pursued a sizeable portion of the agenda defined in large measure by the Presidential Task Force on Market Mechanisms,1/ the GAO, the SEC, the CFTC and other market observers. Indeed, Senator Brady concluded his recent public letter with a position that in fact has been the operating basis of the Working Group:

> We are not attempting to legislate against decline or interfere with the smooth functioning of the markets. The market will always seek its level ground; we are only trying to assure that it gets there safely.

The collective and coordinated actions recommended by the Working Group -- and corrective steps already taken by others -- help to assure that the market in fact does "get there safely" when it moves for whatever reasons.

1/ See, for example, the summary comparison of the recommendations in the Brady report and the actions taken by the Working Group in Exhibit D.

We cannot legislate against market declines, regulatory dictates cannot eliminate volatility, and executive fiat is no more effective. Price controls and capital controls have never worked effectively in this country and no amount of government control can sway markets if underlying economic fundamentals -- or investor perceptions of those same fundamentals -- take the market one direction or another.

Moreover, it is unrealistic and ultimately counterproductive to attempt to roll back developments in financial markets brought about by advancements in telecommunication and computer technology and by changes in investment needs. We cannot go back to the days of the abacus or mechanical adding machines. If we did -- by trying to legislate against particular products or investor preferences or market strategies, for example -- then we would ultimately lose whatever competitive edge we now have to places like Toronto, Tokyo, or London.

Mr. Chairman, I would be remiss if I did not commend the cooperative actions and constructive dialogue on the part of the Working Group members. We have spent considerable time and energy to arrive at our initial recommendations. The members of the Working Group have demonstrated that it is possible to address major, complex issues in a cooperative fashion -- even though we bring different perspectives and preferences to the table -- and in a reasonably short time frame. Disagreements on some matters have not blocked significant agreements that are apparent upon careful examination of the package we have presented to the President.

The public also has been well served by the Working Group's high caliber staff and their professional analyses, and I salute them.

We have made progress on basic elements that are essential to the safety and soundness agenda that we view as a priority. More work will be done, and we welcome the continuing challenge.

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Exhibit A

Volatility Measures, 1971-1988

	Standard Deviations of Daily Price Changes (In Percentage Points)	
Years	S&P 500	NYSE Composite
1971	0.640	0.645
1972	0.500	0.494
1973	0.997	1.007
1974	1.373	1.354
1975	0.967	0.949
1976	0.694	0.676
1977	0.570	0.539
1978	0.787	0.775
1979	0.682	0.682
1980	1.029	1.017
1981	0.843	0.825
1982	1.141	1.073
1983	0.868	0.781
1984	0.794	0.738
1985	0.632	0.589
1986	0.949	0.874
1987	2.120	1.972
1988 (Jan-Apr)	1.420	1.275
Inclusive Periods		
1971-1974	0.943	0.939
1975-1978	0.774	0.755
1979-1982	0.944	0.916
1983-1986	0.821	0.756
Jan-Sep 1987	0.984	0.905
Oct 1987-Jan 1988	3.538	3.290
Feb 1988-Apr 1988	1.073	0.960

Note: These standard deviations were calculated by the S.E.C. from daily data for the entire period indicated in the left column. Approximately two thirds of all daily price changes during a period will lie within one standard deviation of the average price change for the period. (About 95 percent of all changes will fall within two standard deviations and 99.75 percent within three standard deviations.)

Exhibit B

Chapter Three

THE EFFECTS OF DERIVATIVE PRODUCTS

Derivative products, particularly futures on stock indexes, play an increasingly significant role in the securities markets. For example, the trading volume of stock index futures has grown spectacularly since their introduction in 1982. By the week preceding the October market break, trading in the Standard & Poor's ("S&P") 500 index futures contract ("SPZ") was averaging 106,400 contracts. 1/ This daily contract volume (based on the value of the S&P 500 index during the week preceding the market break) was the equivalent of approximately $16 billion worth of equity securities, and represented more than two times the average daily dollar volume of trading on the New York Stock Exchange ("NYSE") during September 1987. 2/ Similarly, options on stock indexes were the fastest growing segment of the options market in 1987 and, by October 1987, on average accounted for more than 43% of total options contract volume. 3/

The growth of derivative products reflects, in part, the trends toward greater institutionalization of the markets and of market basket trading, coupled with the changing nature of investment strategies. Analysis of these trends sheds light on the growing impact of futures trading in the securities markets.

A. Institutionalization

During the last ten years, institutional investors have held an increasingly large percentage of all outstanding equities. In particular, the growth of United States pension funds and mutual funds, and the accompanying changes in investment policy and asset allocation, primarily are responsible for the increasing institutionalization of the securities markets. 4/

At the end of 1975, institutions held 35.3% of the $685.1 billion total market value of all NYSE-listed stocks. At that time, pension funds held a total of $252 billion in assets, $113 billion of which were equity holdings. 5/ By the end of 1980, the market

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1/ See Divisions of Economic Analysis and Trading and Markets, Interim Report to the Commodity Futures Trading Commission ("CFTC") on Stock Index Futures and Cash Market Activity During October 1987, November 9, 1987, Table 2.

2/ See NYSE, Marketing Research Report (November 1987).

3/ Total volume for options contracts traded on all exchanges for the period from January to October 1987 was 276,570,000. The volume for index option contracts traded for the same period on all exchanges was 119,535,000 contracts. Index option contracts generally are one-fifth the size of index futures contracts.

4/ See Chart 3-1 (overview of pension fund growth and management trends).

5/ See J. Light & A. Perold, The Institutionalization of Wealth: Changing Patterns of Investment Decision Making, in Wall Street and Regulation 98 (1987, ed. S. Hayes).

The CHAIRMAN. Thank you, Secretary Gould.
Chairman Greenspan.

STATEMENT OF ALAN GREENSPAN, CHAIRMAN, BOARD OF GOVERNORS, FEDERAL RESERVE SYSTEM

Mr. GREENSPAN. Thank you, Mr. Chairman. I request that the full text of my remarks be submitted for the record.

The CHAIRMAN. Without objection, your statement will be printed in full in the record.

Mr. GREENSPAN. Mr. Chairman, I am pleased to have this opportunity to appear before the Senate Banking Committee with my Working Group colleagues to discuss our report to the President on financial markets. In the period since last October's market break, we have learned a great deal more about the structure of our financial markets and their points of vulnerability.

There is no avoiding the fact that, as our economy and financial system change, our financial markets are going to behave differently than they have in the past. We cannot realistically hope to turn back the clock and replicate behavior of the past. Rather, we need to understand better how the system is evolving and the consequences of such change. Our efforts need to focus on making sure that the financial system is more resilient to shocks rather than embarking on futile endeavors to artificially curb volatility.

As I have noted in earlier testimony, we are dealing with a single valuation process for stocks, index futures and options based on the underlying value of primary claims to corporate ownership. Index futures and options have value only to the extent that the corresponding stocks have value, and in a normally functioning marketplace, the prices of all of these instruments will reflect the values of the underlying equities. In these circumstances, it is a mistake to single out one segment of the broad marketplace as the culprit for large and rapid price movements, when these price movements reflect economic fundamentals in the context of modern technology and the prominence of institutional investors. Moreover, given the integration of markets, efforts to curb one of the component markets may well have adverse consequences for the functioning of the other related markets as well as the overall efficiency of the financial system.

What many critics of equity derivatives fail to recognize is that the markets for these instruments have become so large not because of slick sales campaigns but because they are providing economic value to their users. By enabling pension funds and other institutional users to hedge and adjust positions quickly and inexpensively, these instruments have come to play an important role in portfolio management.

Beyond achieving margin levels adequate for market integrity, it has been argued frequently that they should be set at levels that will reduce price volatility. In particular, it is thought that the lower levels of margin or options and futures foster greater leveraged speculation that in turn causes larger price fluctuations. This line of reasoning leads to the proposals that margins on derivative equity products be raised to levels more in line with those in the cash market.

The empirical evidence, which is vast and expanding rapidly, does not, on balance, lend much support to this argument. The available analyses, including work done by the Board's staff in recent years, provide no convincing evidence that margins affect price movements in any singificant way in the cash or futures markets. Moreover, while higher margin requirements may impose somewhat higher costs on transactions in particular markets, margin requirements are unlikely to reduce in any meaningful degree the total amount of leverage in the economy.

For these reasons, I believe that we should not be guided in the margin area by equalization for leveraging reasons. Implementing such an approach would only tend to give rise to a false sense of security about price movements at a time when, given the underlying economic setting and fundamental change in the structure of the equity markets, price movements may well remain larger than we had come to expect in earlier years. Raising margins will add indirectly to transactions costs, which will act to reduce trading volume and market liquidity.

I recognize and understand the frustration of some Members of this Congress in trying to find a magic cure for the problems of last October. What tends to be overlooked in assessing the situation today is that much has already been done or is in process to correct the weaknesses of the structure—such as, expansion of system capacity, improved coordination in clearing and settlement and stiffer capital requirements. For the most part, the vulnerabilities displayed last fall are ones that are best addressed by the private sector working in collaboration with existing regulatory authorities.

I do not believe that fundamental legislative reforms are needed at this time. There are legislative changes, however, such as those identified in the Working Group report that would standardize bankruptcy laws and establish Federal rules for the transfer of pledge of securities, which do seem appropriate.

Some causes of the sharp break in October cannot realistically be altered. The dramatic increase in telecommunications and sophisticated investing of our pension funds—which contribute to more rapid price adjustments—are a permanent feature of the financial landscape today. As a consequence, as I have already noted, more price volatility may well be inevitable, although I wish it were otherwise.

We cannot provide an iron-clad guarantee that there will not be another October 19 in our future. Unforeseen economic forces could, on their own, conceivably trigger such an event. If, however, we continue to take steps that address remaining structural inadequacies of our financial markets, we can at least reduce the interaction between economic and structural forces and thereby reduce the even now very small probability of a replay of last October.

[The complete prepared statement of Mr. Greenspan follows:]

value of all NYSE-listed stocks had increased to $1.2 trillion, while the institutional investors' share of that market value had remained constant, increasing only .1% to 35.4%. At that time, however, the total value of pension fund assets had increased to $485 billion, $220 billion of which were equity holdings, which accounted for 14% of all equities outstanding. 6/ By 1985, pension funds had more than doubled their 1980 level of equity investment, to almost $500 billion worth of stocks, which accounted for 22% of all equities outstanding. 7/

The 1980s have seen not only a substantial growth in the market value of institutional holdings, but also a surge in the percentage of the total trading volume on the NYSE accounted for by institutional investors. 8/ Large block transactions, 9/ a gauge of institutional participation in the stock market, have increased sharply since 1977. A total of 54,275 large blocks, accounting for 1.2 billion shares ($34 billion), were traded in 1977. 10/ These transactions accounted for 22.4% of the reported volume on the NYSE for that year. By 1983, these figures had more than doubled. In that year, 363,415 block transactions occurred, accounting for 9.8 billion shares ($346.92 billion), and representing 45.6% of reported volume on the NYSE. A record average of 2,631 daily block trades occurred in 1986, up from an average of 2,139 daily block trades in 1985, representing 49.9% of reported volume on the NYSE. Moreover, the total number of block transactions on the NYSE increased 23.5% in 1986 from the previous year. This represented a 25.2% increase in the number of shares accounted for by these trades. 11/ As further evidence of the rapid growth of these institutional transactions, on April 10, 1986, a new record was set when 48.8 million shares of Navistar International were traded, which was the largest block transaction in history as of that date. 12/ Prior to April 10, 1986, the largest block transactions in history had occurred on May 25, 1983, when 7.0 million shares of Ramada Inns were traded, and on November 30, 1983, when 6.35 million shares of AT&T changed hands. 13/

B. Market Basket Trading

The types of institutional transactions that occur and the investment decisions made by money managers also have changed as a result of evolving investment and trading strategies. Institutional money managers have made increasing use of passive

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6/ Id.

7/ Id.

8/ See Chart 3-2.

9/ Large block transactions are transactions of 10,000 or more shares.

10/ See Chart 3-2.

11/ See Chart 3-2: 339,039 block transactions occurred in 1985, accounting for 14.2 billion shares ($501.26 billion). In comparison, 665,587 block transactions occurred in 1986, accounting for 17.8 billion shares ($683.3 billion) traded.

12/ NYSE, Fact Book 12 (1987).

13/ Id.

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asset management strategies. In 1980, money managers reported a total of $9 billion in indexed assets. 14/ This figure rose to $48.2 billion at the end of 1984. By 1985, index fund managers reported $81 billion in indexed assets, almost a 70% increase over the previous year's figure. As of May 31, 1987, the value of indexed assets for U.S. pension funds grew to $187.96 billion, $124.07 billion of which tracked U.S. equity indexes. 15/

As a result of the proliferation of index funds and the growth in indexed assets, along with investment tactics that require the simultaneous trades of large blocks of stocks, institutional investors increasingly have used program trades. Index fund managers began program trading in the mid-1970s. 16/ Currently, an estimated 25% of all institutional trading is accomplished by use of program trades. 17/ These trades include straight execution of multi-stock orders, as well as index arbitrage and substitution strategies, among others. The increase in this activity appears to have accelerated in 1987. For example, in January 1987, an average of 12.1 million shares per day was executed through the List Order Processing ("LIST") capability of the NYSE's Designated Order Turnaround ("DOT") system but by August 1987, that number had increased to an average of 16.6 million shares.

C. The Effects of Futures

The increasing institutionalization of the markets and the growth of passive investment strategies, such as indexing, 18/ have been accompanied by the increasing use by institutional investors of derivative products such as index options and financial futures. By 1984, only two years after the introduction of cash settled stock index options and futures, a number of institutional investors were using or actively considering using derivative markets to earn incremental returns on managed money, allocate assets to adjust for market risk, and manage various commercial and financial risks. 19/ Forty of the top 200 pension funds were using stock index futures at that time. Their use of derivative products, however, did not include dynamic hedging or portfolio insurance to any large extent. In 1984, only an estimated $200 million in

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14/ Christman, Indexed Assets up 70% in 1985, Pensions & Investment Age 6 (Dec. 23, 1985).

15/ Berkowitz, Indexed Assets Top $187 Billion, Pensions & Investment Age 3 (July 13, 1987).

16/ See, e.g., Investment Dealers' Digest 25 (March 2, 1987).

17/ Light & Perold, supra note 3, at 110.

18/ Indexing involves holding stocks in proportion to a widely followed index like the S&P 500.

19/ Board of Governors of the Federal Reserve System ("FRB"), Commodity Futures Trading Commission and the Securities and Exchange Commission ("SEC"), A Study of the Effects on the Economy of Trading in Futures and Options (Dec. 1984) ("Joint Study") at IV-17.

pension fund assets were dynamically hedged. 20/ This changed rapidly over the next three years as pension funds expanded their use of dynamic hedging or portfolio insurance strategies. In 1985, portfolio insurance was applied to an estimated $6 billion of pension fund assets. 21/

By 1986, the amount of pension fund assets committed to portfolio insurance strategies had increased to at least $8.5 billion, forty times greater than the value of pension fund assets that were dynamically hedged in 1984. 22/ By October 19, 1987, stock valued at more than $60 billion, mostly held by pension funds, was reported to be managed under portfolio insurance strategies. 23/

The Division of Market Regulation ("Division") has attempted to verify the total dollar value of portfolio assets that were subject to some type of portfolio insurance or protective hedging program during the October 1987 market break. Division staff spoke with the major vendors of portfolio insurance programs, with broker-dealers and banks that manage large portfolios, and with many corporate pension plan managers. Based on these interviews, the staff has identified a minimum of approximately $55 billion in portfolio assets that were committed to some type of portfolio insurance strategy. This figure is a minimum estimate of portfolio assets subject to some type of portfolio insurance or protection plan. 24/ Moreover, staff interviews with market professionals indicate that a wider range of institutions actively use the futures markets. While these institutions do not employ the precise trading strategies dictated by portfolio insurance, they do employ the futures market to quickly adjust their relative equity holdings in a manner that can have effects on the market similar to portfolio insurance trading.

1. Benefits

As the staff has noted in prior analyses, the impact of index-related trading on the markets should be viewed in the context of the benefits provided by such trading. Various studies conducted before the October 1987 market break concluded that futures

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20/ Ring, Funds Watch as Others Try Program Trades, Pensions & Investment Age 1 (April 28, 1986).

21/ Ring, Dynamic Hedging Grows Despite Debate, Pensions and Investment Age 3 (April 14, 1986).

22/ Id.

23/ Ring, Execs Ponder Compatibility of Strategies, Pensions & Investment Age 15 (July 27, 1987).

24/ While this figure is smaller than estimates ranging from $60-$100 billion that have appeared in the press, we have attempted to the maximum extent possible not to double count portfolio assets. Various portfolio insurance programs are licensed by vendors. As a result, obtaining an accurate estimate of the amount of portfolio assets subject to some type of portfolio insurance strategy is difficult because information obtained from licensees also may have been provided by vendors.

and options on stock indexes offer significant benefits to today's capital markets. 25/ These studies found that the markets for these index products, especially the market for SPZ futures, add substantial liquidity and pricing efficiency to equity markets generally. Moreover, using these products, investors are able to control the risks in their portfolios in accordance with their particular needs. As a result, the markets perform their various economic roles more efficiently.

a. Liquidity Efficiencies

As described in Chapter One, an index option or future is a single instrument that can be used as a surrogate for many stocks. Substantial market making capital is concentrated in the more successful of these products, especially the SPZ future and the S&P 100 index option. In addition, market makers and hedgers are afforded favorable margin requirements, enabling them to effect transactions at lower cost. These factors contribute to the futures market's liquidity, allowing investors to execute large transactions with much smaller market effects than is possible in the separate stocks. 26/

b. Transactional and Hedging Efficiencies

The availability of derivative index products has substantially enhanced institutions' and other market professionals' hedging and market timing capabilities. Index futures and options also significantly reduce transaction costs when assets are reallocated among such as stocks, bonds and cash equivalents in a portfolio, or when additional funds are invested. 27/ Because commission rates, as well as execution costs, are lower for futures than for stocks, institutions changing the proportion of stocks in a portfolio can do so at lower cost by initially using the futures rather than the stocks themselves. For example, a debt portfolio can be converted rapidly to equity by simultaneously selling bond futures and buying stock index futures. In doing so, managers can increase their equity exposure without incurring the relatively higher transaction costs of the stock and bond markets. Thus, futures not only allow for the rapid reallocation of a portfolio, but create substantial savings in execution and

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25/ See, e.g., Joint Study, supra note 19, at IV-35; H. Stoll & R. Whaley, Expiration Day Effects of Index Options and Futures (1986) ("Stoll Study").

26/ A 1985 study by the investment firm of Kidder, Peabody & Co. estimated the difference in costs as follows: the cost of executing a $20 million stock trade in terms of the effect on the price of the stock would be 0.27%; for a similar futures trade, 0.04%. R. Wunsch, Stock Index Futures (Kidder Peabody & Co., April 23, 1985). More recently, Morgan Stanley estimated the market impact cost of a $120 million S&P 500 basket as 1.30 index points (or $520,000) in the stock market versus .05 index points (or $20,000) in the SPZ. R. Johnson, Program Trading Presentation (Morgan Stanley, July 9, 1987).

27/ Of course, the cost of executing a program has changed over time. According to Fredric A. Nelson of Bankers Trust, a $50 million S&P 500 program would have cost an investor $290,000 to execute in 1984, $165,000 to execute pre-October 1987, and $345,000 to execute after October 1987. F. Nelson, Trading Strategies and Execution Costs (Bankers Trust Company, December 3, 1987).

transaction costs. Of course, when and if the stock transactions take place, commission costs are incurred.

Moreover, as hedging vehicles, stock index products can offer investors substantial benefits. Through the sale of futures contracts, pension, endowment and other institutional investors can quickly, at relatively low cost, shift risk to those more willing to accept it.

2. Price Impacts of Futures

The existence of an active futures market in stock indexes has created, in effect, an alternative or "synthetic" stock market for the growing number of institutional investors who choose to trade passively by investing in funds tied to specific indexes or who are interested in buying and selling stocks in "baskets." The data set forth in the Market Chronology (Chapter Two) demonstrate the substantial impact this alternative stock market can have on the equity market, especially by increasing intra-day price volatility.

When futures on stock indexes were introduced, little attention was paid to the possible "price discovery" aspect of this new product or to its ability to displace the stock market as the preferred vehicle for trading baskets of stock. The primary emphasis was on the significant potential for hedging investment risk that was offered by a cash-settled future. Nevertheless, it is our view that, as a result of the increasing use of the futures market by institutional investors, including investors employing passive investment strategies and dynamic hedging techniques, 28/ the character of the market has changed to the point where the "price discovery" feature of the derivative market is leading, rather than following, price trends in the underlying equity markets. Moreover, through index arbitrage, the prices "discovered" in the futures pit are quickly transmitted to the floor of the NYSE where prices adjust to the general market sentiment expressed in the futures arena.

There are several reasons for the increased impact of futures. First, low transaction costs, low margin requirements, and normally high levels of liquidity, the very benefits cited by futures proponents, have made the futures market the "market of choice" for many active institutional traders. Many institutional traders who use futures reported to the staff that they did so because futures were a "cheaper" alternative to buying individual stocks. Some believed that they could increase or decrease market exposure virtually instantaneously, with little market or liquidity costs. For this reason, as noted above, the underlying market value of index futures traded daily generally exceeds the dollar volume on the NYSE. 29/ Accordingly, institution-led market movements are usually observed first in the futures markets.

28/ Dynamic hedging involves rebalancing a market portfolio to increase or decrease the proportion of equity exposure depending on market movements.

29/ The dollar value of SPZ 500 futures contracts traded daily has exceeded the dollar value of daily transactions on the NYSE since the last quarter of 1983. See N. Katzenbach, An Overview of Program Trading and Its Impact on Current Market Practices, 10 (December 21, 1987).

Second, the capital available for index arbitrage has increased substantially. In the early developmental stages of index arbitrage strategies, large broker-dealer firms trading for their own proprietary accounts dominated the business. These same firms continue to be the major players in index arbitrage, but today much of their business is as agent for institutional customers. Moreover, the availability of an efficient order routing system for baskets of stock (the NYSE LIST system) has decreased the time, and therefore the execution risk, involved in executing program trades. Efficient order routing also has increased the speed with which market movements in futures can be transmitted to the stock market.

Institutional investors also can make greater use of index arbitrage strategies than firms can trading for their own accounts. As noted below, the ability to initiate a so-called "short" arbitrage (i.e., buy futures, sell stocks "short") is limited by the Commission's and exchanges' short sale rules, which require that the "short stock" portion of the arbitrage be executed on "plus" ticks or "zero plus" ticks 30/ for each of the stocks comprising an arbitrageur's basket. Many institutional investors, particularly those who manage passive or index funds, already own the stocks underlying the index and, therefore, can initiate an arbitrage transaction involving stock selling without considering the short sale rule, because their sales would be "long" sales and not subject to the "tick" test provisions of the short sale rule. Moreover, because these institutions already own the securities comprising the index, the return they must receive on the arbitrage is less than would be required by other market participants. Accordingly, they are willing to effect arbitrage transactions with a smaller spread between the futures price and theoretical fair value.

The result of all these trends has been to increase the speed and frequency with which index futures price movements are transmitted to the stock market. There is, of course, nothing inherently wrong with index futures providing price discovery for the stock markets. Indeed, such close coordination of two related markets generally enhances pricing efficiency. The emergence of futures as a stock price leader, however, has had a significant impact on the stock market.

First, it increases the difficulty of enforcing marketmaking obligations imposed on specialists. As discussed in detail in Chapter Four, stock specialists are generally expected to buy or sell securities to offset temporary imbalances in supply and demand and to provide price continuity, depth, and liquidity, the general indicia of fair and orderly markets. Interviews with specialists confirm, however, that if the future is trading at a discount or premium to its theoretical value, specialists are unwilling to act aggressively to offset imbalances because the discount or premium indicates that more arbitrage selling or buying will enter the market. 31/ Other market participants may be equally reluctant to trade against pricing signals emanating from the futures market.

30/ A "plus tick" is a trade at a price greater than the immediately preceding transaction and a "zero-plus tick" is a trade at a price greater than the last transaction at a different price (e.g., a trade at 20 would be a plus tick if the prior trade was 19 7/8, and a zero-plus tick if the two prior trades were 19 7/8 and 20).

31/ See Chapter Four, infra for a discussion of specialist obligations and performance standards.

Second, the relatively low margins and absence of short sale restrictions in the futures market may encourage additional trading that might not occur if the derivative index products did not exist, in that large stock equivalent positions can be established or liquidated more quickly. The price movements caused by this increased trading velocity are then rapidly assimilated into the stock market through arbitrage, because arbitrage liquidations and index substitution activity again can occur consistent with short sale restrictions.

The staff believes that these two effects of futures price leadership (greater difficulty in maintaining orderly stock markets and an increase in the velocity of trading) have converged to contribute to increased intra-day volatility in the stock market. Indeed, recent studies have indicated that while, prior to 1987, inter-day stock price volatility was not out of line with prior periods, intra-day volatility was increasing. Moreover, by early 1987, inter-day volatility appeared to be increasing as well. 32/

This price impact does not appear to occur because of speculative activity in the index futures market. Neither our examinations of price volatility on September 11 and 12, 1986 and January 23, 1987 nor our analysis of futures trading during the October market break indicates that speculative activity in the futures market was predominant. Rather, as detailed in Chapter Two, institutions, not speculators, were the primary net sellers of futures on October 19, the day of the greatest market decline.

32/ See, e.g., Cowan, Whether Swings Will Continue is Uncertain, N.Y. Times, January 2, 1988, at 31, col. 3 ("It used to be that, on a given day the [DJIA] moved up or down by more than 2[%] only about once a month. Since May, such swings increased in frequency to almost once every three weeks, and by the fourth quarter of 1987, they occurred almost every other day on average"); N. Katzenbach, supra note 29, at 21-23; F. Edwards, Financial Futures and Cash Market Volatility: Stock, Index and Interest Rate Futures 18 (September 1987) ("Beginning in 1986, . . . volatility began to rise, and in 1987 increased even more. This pattern is evident for all measures of volatility, which show similar movements [footnote omitted]." According to Professor Edwards, from 1985 to 1986, the standard deviation of the high-low estimator for the S&P 500 increased from 0.3534 to 0.5832, while the mean of that indicator increased from 0.7809 to 1.1204. It should be noted, however, that Professor Edwards also stated: "It is doubtful that the rise in stock market volatility is due to anything associated with futures trading.")

We would note that some of the studies which have sought to measure market volatility before and after the introduction of stock index futures have done their comparisons using the Spring of 1982 as the relevant "event date" because that is when such futures were first introduced. However, such an "event date" does not accurately capture the full effects of futures trading. The dollar equivalent of stock trading via futures did not exceed NYSE trading volume until late 1983, proprietary index arbitrage did not become significant until Spring/Summer of 1984, index substitution programs only came into play during 1985-86, and dynamic hedging became considerably greater in 1986-87. Thus, whether such pre-/post-introduction of stock index futures, such studies should, at least, use a more finely textured "event date."

Exhibit C

Percentage Declines in Postwar Bear Markets,
by Month-end Peaks and Bottoms in the
Dow Jones Industrial Average

Dates	Closing DJIA	Duration	Percentage Drop
May 1946	212	5 months	20.3
Oct. 1946	169		
Dec. 1961	731	6 months	23.2
June 1962	561		
Dec. 1965	969	9 months	20.1
Sept. 1966	774		
Apr. 1969	950	14 months	28.1
June 1970	683		
Dec. 1972	1020	24 months	39.6
Dec. 1974	616		
Dec. 1976	1004	14 months	26.1
Feb. 1978	742		
March 1981	1003	16 months	19.4
July 1982	808		
Aug. 1987	2662	3 months	31.1
Nov. 1987	1833		

EXHIBIT D

SUMMARY COMPARISON OF BRADY RECOMMENDATIONS AND WGFM ACTIONS

	Brady Task Force Recommendations	WGFM Actions
1. Circuit breakers:	Recommends circuit breakers across markets.	Action: Circuit breakers across markets; followed five guidelines in recent letter by Senator Brady.
2. Clearing and Settlement Procedures:	Clearing systems should be unified to reduce financial risk; Senator Brady said flaws came close to damaging financial system in his recent letter.	Action: Numerous recommendations and proposals to increase coordination and facilitate smooth operation of market mechanisms; goal is a more perfectly coordinated system.
3. Intermarket Regulation:	One super-regulator, prefers FRB, but, Senator Brady recently stated that action on reform on other intermarket issues was more important than one regulator at this time.	Action: Consultation and coordination by WGFM will be on-going; important element of contingency planning.
4. Margins:	Should be consistent to control speculation and financial leverage, though not necessarily equal for futures and stocks; prefers to be set by FRB.	Action: Existing margins (which have been increased since October) are prudential and harmonious across markets to protect against trader or investor default; prudential margins appropriate for carrying stock should be significantly higher than those for a stock futures index contract; best left to SROs to regulate;

4. **Margins:**	Should be consistent to control speculation and financial leverage, though not necessarily equal for futures and stocks; prefers to be set by FRB.	Action: Existing margins (which have been increased since October) are prudential and harmonious across markets to protect against trader or investor default; prudential margins appropriate for carrying stock should be significantly higher than those for a stock futures index contract; best left to SROs to regulate; additional cushions exist in capital requirements and surveillance.
5. **Information Systems:**	Monitor transactions and conditions in related markets (e.g., customer information behind each large trade).	Action: Numerous recommendations and proposals for improved inter-market information flows; SROs are exploring information for large stock traders; Administration favors strong action against front running and manipulation.

Statement by

Alan Greenspan

Chairman, Board of Governors of the Federal Reserve System

before the

Committee on Banking, Housing, and Urban Affairs

United States Senate

May 24, 1988

Mr. Chairman, I am pleased to have this opportunity to appear before the Senate Banking Committee with my Working Group colleagues to discuss our report to the President on financial markets. In the period since last October's market break, we have learned a great deal more about the structure of our financial markets and their points of vulnerability. To this end, we have been aided by the many reports on the October plunge, including the one prepared by the Presidential task force headed by Senator Brady, and from numerous meetings with representatives from the private sector.

Moreover, considerable progress has been made at the government and private sector levels in addressing areas of weakness. This progress has been presented in considerable detail in the Working Group's report to the President, and I shall not use this occasion to recite the details. Our report is to be regarded as an interim submission, for we recognize that there is more work to be done. Some might be impatient with the pace at which our deliberations have proceeded, but it needs to be understood that we are dealing with a very complex system and inappropriate efforts to correct this system could leave us with weaker rather than stronger financial markets. We do not yet have answers to all of the questions that have been raised about ways to strengthen our markets, and we must recognize that it will take more time before our task is complete.

The proposals contained in the Working Group report represent, in my judgement, the proper approach to dealing with these issues. They reflect the "one market" valuation process as it applies to the cash and

derivative instruments for stocks, and thus the need for coherence and coordination. The proposals recognize the necessity for private sector solutions to many of the system's problems. They seek to take advantage of the private sector's expertise in the many complex components of the equity products market system and of the incentives that the exchanges, clearing houses and securities firms have for developing a safe and sound marketplace. Yet the proposals reflect, at the same time, the need for federal oversight and cooperation to ensure that rules and regulations in individual markets recognize and deal with interactions among markets and that contingency plans are in place should another emergency occur. Such an approach, I firmly believe, is the appropriate way of ensuring that our financial markets have the flexibility to adapt to inevitable change while limiting their vulnerability to breakdowns that could threaten our economy.

There is no avoiding the fact that, as our economy and financial system change, our financial markets are going to behave differently than they have in the past. We cannot realistically hope to turn back the clock and replicate behavior of the past. Rather, we need to understand better how the system is evolving and the consequences of such change. Our efforts need to focus on making sure that the financial system is more resilient to shocks rather than embarking on futile endeavors to artificially curb volatility.

The events of last October illustrated dramatically the many changes that have occurred in our market for equity products and the resulting vulnerabilities of the system. Some of those, such as the use

of so-called portfolio insurance strategies based on the faulty premise of a high degree of market liquidity, have at least to a degree been corrected by the October experience. Other changes, such as the heavier dependence of market participants on high-speed computers and telecommunications devices and the growing role of institutions--as the public, in effect, delegates more of its asset management to professionals--are here to stay.

Greater reliance on advanced computers and telecommunications technology means that news bearing on asset values reaches portfolio managers simultaneously. And managers are able, and have the incentive, to react virtually instantaneously with their market orders. Institutional managers and other market professionals also can easily monitor prices across markets on a real time basis and can react quickly to any price disparities across the markets and corresponding arbitrage opportunities that may emerge.

The speed of information flow together with the institutionalization of equity holdings imply that new information can very promptly induce a heavy imbalance of orders on one side or the other of the market. Any resulting arbitrage opportunities will generate additional orders while ensuring that the price movements are spread across the various instruments, and increasingly, across borders. It is also worth noting that we routinely see the futures markets reacting to new information more rapidly than the cash markets. Some have concluded from this regularity that movements in futures prices thus must be causing movements in cash prices. However, the costs of adjusting

portfolio positions are appreciably lower in the futures market and new positions can be taken more quickly. Hence, portfolio managers may be inclined naturally to transact in the futures market when new information is received, causing price movements to occur there first. Arbitrage activity acts to ensure that values in the cash market do not lag behind.

As I have noted in earlier testimony, we are dealing with a single valuation process for stocks, index futures and options based on the underlying value of primary claims to corporate ownership. Index futures and options have value only to the extent that the corresponding stocks have value, and in a normally functioning marketplace, the prices of all of these instruments will reflect the values of the underlying equities. In these circumstances, it is a mistake to single out one segment of the broad marketplace as the culprit for large and rapid price movements, when these price movements reflect economic fundamentals in the context of modern technology and the prominence of institutional investors. Moreover, given the integration of markets, efforts to curb one of the component markets may well have adverse consequences for the functioning of the other related markets as well as the overall efficiency of the financial system.

What many critics of equity derivatives fail to recognize is that the markets for these instruments have become so large not because of slick sales campaigns but because they are providing economic value to their users. By enabling pension funds and other institutional users to hedge and adjust positions quickly and inexpensively, these

instruments have come to play an important role in portfolio management. The history of futures and options provides numerous examples of contracts that did not provide much economic value and consequently failed.

The delegation of asset management to professional managers has spurred growth of futures and options. These institutions that manage the assets of our retirement programs, nonprofit institutions, equity mutual funds, and various kinds of trusts seek to use all of the equity products to improve yields while limiting exposure to risk.

Reducing exposure to risk, of course, implies portfolio diversification. Thus, we should not be surprised to see that these investors manage highly diversified portfolios of equities approximating the market in composition. Moreover, in recognition of the weight of evidence pointing to only very minimal scope for improving portfolio returns by applying managerial resources to individual stock selection, many professional managers deal in baskets of stocks representing indexes, most notably the S&P 500. Thus, trading in baskets of stock representing indexes has been found to be a cost-effective means of achieving available returns on stock portfolios.

In this context, it is not surprising that institutional investors have come to rely heavily on index products in futures and options markets as a relatively low-cost means of adjusting their positions and as hedging devices. Today, futures market trading is dominated by such investors. A consequence, of course, is that new

information bearing on equity values broadly will be promptly reflected in stock index futures and in those stocks making up the indexes.

Institutional investors also became major users of so-called portfolio insurance strategies before the October break, a factor that likely contributed to the high level of share prices. Equity holdings were expanded by such institutions on the mistaken belief that markets for cash and derivative instruments were sufficiently liquid to permit investors to trim their exposures promptly and limit losses. Many of these aggressive strategies were based on mathematical models and executed by computers. The inability to liquidate positions promptly last October, under the very circumstances these programs were designed to protect against, has led to a major scaling back of portfolio insurance strategies. Users found that such strategies can work to limit risk for individual portfolios under normal circumstances. However, if all try to do it simultaneously, the strategies will break down, since risk can be shifted from one investor to another but cannot be lowered for the total market.

The other type of program trading, index arbitrage, also has been curtailed. Cutbacks have partly reflected management decisions by some securities houses to withdraw from index arbitrage, at least in part to reassure customers many of whom perceive such activity to be a source of volatility. The recent action by the New York Stock Exchange to restrict automated orders when the Dow Index moves by 50 points or more also will further reduce the use of index arbitrage, especially in a declining market. We must recognize, however, that although efforts

to artificially reduce program trading activity have found popular support, they come at a cost. Reduced arbitrage implies less connection between cash and futures markets and more price disparities across these markets. We learned last October that when large price disparities emerge this adds to confusion and doubt in the markets and uncertainty premiums in stock returns rise, adding to selling pressures. In other words, insufficient arbitrage between cash and futures can be a destabilizing force in a declining market.

The curtailment of portfolio insurance does imply reduced orders and less strain on system capacity in a declining market. Strains on system capacity and the associated uncertainties about execution, as we saw last October, can reinforce tendencies to withdraw from the markets; in the cash market for equities, for which there is a net long position overall, such withdrawal implies more sell orders and downward pressure on prices. The likelihood of a recurrence of such severe strains on system capacity also is being reduced through efforts of the exchanges and the over-the-counter market to augment capacity. The report of the Working Group lists a number of measures that have been taken or are in process. For example, the New York Stock Exchange is implementing a system that it expects will be able to handle comfortably a volume of 600 million shares per day by this summer and a billion shares by late 1989.

Another factor contributing to the stresses of last October were credit uncertainties--affecting clearinghouses, market makers and brokers--and the need to finance outsized cash flows, resulting in part

from the lack of coordination of margin payment and collection in the futures markets. The Working Group report notes that a great deal of progress has been made in the area of credit and clearing recently, and it recommends specific further actions to be taken, some of which may require legislation.

The sheer rapidity of the price decline in October, as I noted in earlier testimony, was a major factor contributing to the near-panic atmosphere on October 19, raising uncertainty premiums in share returns and adding to downward price momentum and pressures on execution capacity. Such a rapid price move leads to doubts about underlying values and efforts to withdraw from equities. Some investor survey results suggest that on October 19 many sellers were reacting to the large price declines themselves and to other panicky investors. The potential for greater rapidity of price moves is an implication of the combination of modern technology and the large institutional presence in the equity-related markets that I previously mentioned.

In recognition of this situation, the Working Group has proposed a coordinated intermarket circuit breaker that would be triggered by a decline in the Dow index of 250 points. The resulting trading halt is intended to give the markets a breather to digest available information and to provide time for offsetting-buy orders to arrive on the floor and for credit arrangements to be worked out. We fully recognize that price limits can be destabilizing, but a coordinated circuit breaker that is known in advance is preferable to the disorderly process of halts in individual stocks and derivative

markets that threatened to get completely out of control last October. The limits that we are proposing are sufficiently wide that they are expected to come into play very rarely--only when there is a major threat to the system.

Another important issue relating to the strength of our market systems that was addressed by the Working Group is the issue of margin. The Brady Task Force and others have proposed that margins be harmonized across the cash and derivative equity markets. Margins serve to protect against a breakdown in the markets resulting from a large price move that could threaten clearinghouses and brokerage firms. Achieving consistency in margins for individual stocks and options and index-based products must take into account differences in price behavior of these instruments and differences in their settlement periods. Because all stock prices do not move in unison, values of broad portfolios of stocks are less volatile than prices of individual stocks and thus prudential margins on index futures do not need to be as high as those on individual shares. In addition, the longer is the settlement period, the larger is the potential cumulative price change and the greater is the risk exposure of the broker and clearinghouse. Futures contracts are cleared daily, and margin calls can be made several times a day, while the standard settlement period for shares is three days to a week. This consideration, too, would suggest a higher margin for individual stocks than for index futures.

The staff of the Working Group did a substantial amount of statistical analysis of this matter, which proved to be helpful in

determining the extent to which maintenance margins at present are or are not harmonized for prudential purposes. The findings, which are presented in an appendix to the report, indicate that differences in price movements between individual stocks and broad indexes imply that a given degree of protection across all instruments requires that margins on individual stocks need to be about twice as high as those on broad indexes. This presupposes that settlement occurs on the same time schedule and that the level of price volatility which has prevailed since October continues into the future. In addition, an instrument settling in three days would need to have nearly twice as much margin as an instrument that settles in a single day. This evidence indicates that current maintenance margin levels for individual stocks and index futures--set by the SROs--are high enough to cover recent price movements more than 99 percent of the time. The degree of protection afforded by these very different levels of margin is surprisingly comparable across the markets.

Moreover, effective market protection against the consequences of a very large price movement also is enhanced by acceleration of margin calls by brokers when there are large price declines and by customers honoring obligations when the margin that they have deposited proves to be inadequate to cover very large price movements. Clearinghouses, in addition, are protected by member security deposits and other devices. Furthermore, the Working Group's recommendation on circuit breakers and on credit and clearing would add to protections in

place by reducing financial system risks from the extreme price movements which are not in the 99 percent average.

Beyond achieving margin levels adequate for market integrity, it has been argued frequently that they should be set at levels that will reduce price volatility. In particular, it is thought that the lower levels of margin on options and futures foster greater leveraged speculation that in turn causes larger price fluctuations. This line of reasoning leads to the proposal that margins on derivative equity products be raised to levels more in line with those in the cash market.

The empirical evidence, which is vast and expanding rapidly, does not, on balance, lend much support to this argument. The available analyses, including work done by the Board's staff in recent years, provide no convincing evidence that margins affect price movements in any significant way in the cash or futures markets. For example, the volatility of stock prices has not been significantly lower since the imposition of margins requirements; and changes in initial margin requirements on stocks have not been followed by predictable or significant changes in stock prices.

Moreover, with the expanding opportunities for credit that have characterized developments in our financial markets for some time, those who wish to speculate are little constrained by margin levels. An individual who wishes to speculate in the market--a fairly rare event in the index-futures markets which are dominated by institutions and other professionals--can obtain funds through numerous other sources, including consumer loans, loans secured by collateral other than stocks,

or by borrowing against home equity perhaps through a home-equity line. Large institutional investors may borrow against their portfolios of securities or obtain letters of credit to meet margin requirements. Thus, while higher margin requirements may impose somewhat higher costs on transactions in particular markets, margin requirements are unlikely to reduce in any meaningful degree the total amount of leverage in the economy. Indeed, outstanding margin credit on stocks plus the value of open interest of stock-index futures represents about 2 percent of the market value of equity.

For these reasons, I believe that we should not be guided in the margin area by equalization for leveraging reasons. Implementing such an approach would only tend to give rise to a false sense of security about price movements at a time when, given the underlying economic setting and fundamental change in the structure of the equity markets, price movements may well remain larger than we had come to expect in earlier years. Raising margins will add indirectly to transactions costs, which will act to reduce trading volume and market liquidity. If this is what the Congress seeks, and I find it hard to believe that less liquid markets for equity-related instruments are consistent with congressional intent, then I would suggest a more direct approach--say, through a tax on transactions.

The prudential objectives regarding margin, on which most if not all can agree, are closely related to clearing and settlement. Adequate margins act to protect clearinghouses and brokers against customer default. But other measures also are needed to strengthen the

clearing and settlement system, which, in the event, last October looked to be a potential point of vulnerability in the system. It has been proposed by the Brady Task Force and others that a comprehensive unified clearing system be established as the preferred solution to the problems revealed by last October's experience. This concept has considerable appeal, and it may be an objective worth pursuing over the longer run, to reduce strains and risks associated with intermarket positions of clearing members and their customers. A netting of intermarket positions might reduce liquidity strains on those having cross-market positions, and more comprehensive information on intermarket positions facilitates an assessment of the overall risk positions of the entity. But as the Working Group report notes, the achievement of a single unified clearing organization faces many obstacles at present, especially difficult legal questions regarding liability.

Meanwhile, as the Working Group report also notes, a number of steps already have been taken by the clearinghouses or are planned which will provide many of the benefits of unified clearing. For the major futures and options exchanges, daily pay and collection information by customers is now being shared and plans are underway to broaden this information sharing system. Also, progress is being made to assemble timely comprehensive information on the comprehensive positions of clearinghouse members. Other measures are being developed for timely confirmation of payments to settlement banks.

Let me conclude by saying that we have come a long way in the past seven months in identifying the vulnerabilities in our equity

markets that contributed to the difficulties of last October. An impressive list of accomplishments has been made to date and there is every reason to believe that procedures in place now will succeed in addressing many of the remaining issues. The Working Group intends to continue to play an active role in this process and I believe that this will prove to be the most effective means for ensuring that progress is made in strengthening our financial markets and enabling them to adapt to inevitable change. In the end, we must be prepared to accept a different pattern of behavior in our equity markets and our objective must be to enhance their ability to accommodate change and withstand bouts of volatility. As we continue to address these issues in the future, let us seek to preserve the vibrancy of our markets rather than run the risk of stifling them through overreaction to the events of last October.

We cannot provide an iron-clad guarantee that there will not be another October 19 in our future. Unforeseen economic forces could, on their own, conceivably trigger such an event. If, however, we succeed in fully addressing the structural inadequacies of our financial markets, we can at least reduce the interaction between economic and structural forces and thereby reduce the even now very small probability of a replay of last October.

The CHAIRMAN. Thank you, Chairman Greenspan.
Chairman Ruder.

STATEMENT OF DAVID S. RUDER, CHAIRMAN, SECURITIES AND EXCHANGE COMMISSION

Mr. RUDER. I welcome this opportunity to present my personal views as Chairman of the Securities and Exchange Commission and as a member of the Working Group on the financial markets.

The Securities and Exchange Commission is the agency designated by Congress to regulate the Nation's securities markets. It has functioned for over 50 years as one of the best and most independent agencies of the U.S. Government. In these crucial times for our markets, it is particularly important that as Chairman of the SEC I express my independent views on our financial markets.

I have submitted a written staement which I ask be included in the record.

The CHAIRMAN. Without objection, it will be printed in full.

Mr. RUDER. The Working Group's interim report reflects wide areas in which agreement was reached. I support the agreements contained in the report and I support continuation of the Working Group as a coordinating and consulting mechanism for intermarket issues.

I also support separate initiatives by the self-regulatory agencies, by the CFTC, the SEC, the Federal Reserve Board and Congress. I would note that the Securities and Exchange Commission is not halting its own regulatory initiatives by virtue of the fact that I am participating in the Working Group.

Our staff of more than 120 people in our Market Regulation Division continues to work on problems given to us by the market break. The Working Group's interim report identifies substantial progress being made in system capacity enhancement, clearing and settlement, including payments, and information flows. This progress is consistent with prior SEC recommendations and reflects important progress by the securities and futures self-regulatory organizations in cooperation with the SEC and the CFTC.

I note that Mr. Gould has brought our October 1987 market break study with him. It does contain a large number of recommendations, many of which have been implemented and many of which have been implemented by the self-regulatory organizations at our suggestion and at the suggestion of the CFTC.

I do want to comment that there has been singificant coordination going on between the CFTC and the SEC in reaching the results that have taken place thus far.

I do, however, support the recommendations of the Working Group for further improvements which are extremely important even if not highly visible.

The Working Group's more specific recommendations for prospective action fall into three major areas—coordinated trading halts and reopenings, clearance and settlement systems, and margin regulation.

TRADING HALTS AND REOPENINGS

With respect to trading halts, the Working Group recommended short-term coordinated trading halts across markets at 250 and 400 point levels of decline in the Dow Jones Industrial Average, coupled with a coordinated reopening procedure. I support this recommendation as a way to calm the fear and panic that occurs when there are steep declines in the stock markets. These halts and reopenings will, however, require cooperation from the SRO's, including rule making. Although I do not generally favor market closings, this proposal has the advantage of certainty.

It is important to emphasize that the proposal does not, however, preclude an exchange from deciding unilaterally to halt trading in one or more securities or futures products. Likewise, it does not address other related subjects such as futures price limits or delayed openings by futures and options exchanges, a subject which I expect to pursue in the Working Group in the future.

The second area for action on which the group agreed concerns initiatives desinged to improve and integrate clearance and settlement systems. The prompt implementation of these initiatives could, as Chairman Greenspan indicated, substantially reduce the credit uncertainties that plagued the markets last October.

Additionally, however, I believe that legislation is desirable that would direct the CFTC and the SEC to coordinate efforts to continue progress already made on integrating clearance and settlement systems across markets. Such legislation was passed in 1975, Senator Proxmire, and I think it was a good, strong incentive for the creation of sound clearing and settlement systems in the stock markets. My written testimony expands on recommendations in these areas.

The third major area in which recommendations for action were made concerns margin requirements. The Working Group agreed that the post-October market break margin requirements are adequate for prudential purposes. I should note that means futures margin requirements at their present levels of approximately 15 percent of index levels.

OVERSIGHT OF FUTURES MARGINS

Three of the four principals, the Treasury, Chairman Greenspan, and myself also agreed that legislation should be enacted to provide Federal agency oversight of futures margins in order to be sure that futures margins are set at levels to protect the financial systems.

The two margin areas in which agreement was not reached concerned: (1) margin levels set for the purpose of dampening volatility; and (2) Federal Reserve Board oversight of margin regulation. First, as I have testified previously, short-term measures should be taken to dampen volatility. One of the least intrusive interim measures to accomplish this goal would be to increase margins on stock index futures and I have recommended that this step be taken.

Second, because today's markets are a linked market, ultimate authority to set margins across markets should be centralized in a single agency. That agency should be the Federal Reserve Board,

which already has authority over stock and options margins. Legislation giving the Federal Reserve Board responsibility and power to set futures margins as well as stock and options margins should be adopted in order to promote uniform margin policy across those markets.

I would note that the Federal Reserve Board already is charged with the responsibility of adopting margin regulations in the stock market to prevent what is called speculation or leveraged activities.

The last area which I wish to address briefly is an agenda for other legislative action. Although I favor this legislative action, the Commission has not yet had sufficient opportunity for thorough consideration of these legislative recommendations. I note that the Commission will, however, be considering these suggestions at an open meeting on May 26, 1988, 2 days from now.

The legislative recommendations are detailed in my testimony. In addition to legislation regarding supervision of margin levels and legislation coordinating settlement and clearance, I recommend several other areas.

First, the Commission should have expanded emergency authority similar to that which the CFTC currently has

Second, the Commission should be authorized to obtain financial reports from holding companies and affiliates of securities market participants in order to provide information to the Commission concerning risk exposure that could materially impact the affiliated broker/dealer.

Third, large traders should be required to report transaction information on a timely basis. I believe legislation is important in this area, but that provisions can be included in any legislation to guarantee the confidentiality of such information.

Fourth, I think that the Securities and Exchange Commission should be given the authority to regulate stock index futures.

In this connection, Chairman Proxmire's invitation to testify asked for views concerning how to structure and formalize an intermarket coordination committee so that progress may continue in areas of concern already identified.

First, certain legislative proposals described in my written testimony would provide a substantial degree of coordination in certain specific areas, particularly in clearance and settlement. There are proposals to place margin authority in the Federal Reserve Board as well as to add to the clearance and settlement coordination.

Second, the continuation of the Working Group in conjunction with these measures would provide a useful mechanism for contingency planning, discussions of other intermarket issues, and monitoring of progress in areas such as clearing and settlement.

Third, if there's a desire to consolidate all decisionmaking authority for these markets in one place, I repeat my suggestion that the Securities and Exchange Commission is the agency which has the authority, expertise, and knowledge in this area and that the SEC is the proper place to repose consolidated authority. I do not believe that vesting decisionmaking authority with respect to stock and stock index futures in the Chairman of the SEC, CFTC and the Federal Reserve Board acting as a committee would be either appropriate or efficient.

Thank you.

[The complete prepared statement of Mr. Ruder follows:]

MAY 2 4 1988

TESTIMONY OF
DAVID S. RUDER
CHAIRMAN
U.S. SECURITIES AND EXCHANGE COMMISSION
BEFORE THE SENATE COMMITTEE ON
BANKING, HOUSING, AND URBAN AFFAIRS
CONCERNING THE WORKING GROUP ON
FINANCIAL MARKETS

MAY 24, 1988

I. INTRODUCTION

The October market break was one of the most dramatic events in the history of the U.S. financial markets. In prior testimony before this Committee, I described the market break, set forth the conclusions and recommendations of the Commission, and reported on the progress that had been made in implementing those recommendations. I am pleased to present this testimony today that will: (1) discuss the Report of the Working Group; (2) describe the continuing efforts by the self-regulatory organizations ("SROs") to strengthen our markets; and (3) propose legislation to address certain matters of continuing concern since October. In brief, I support the Working Group's recommendations, although I do not believe they go far enough in providing a satisfactory framework for solution of the problems posed by today's volatile markets.

A. Clearance and Settlement

The Group's recommendations regarding enhanced clearance and settlement procedures, including several possible legislative changes, will, if promptly and fully implemented, improve the capacity of the markets to handle periods of stress.

B. Market Capacity Improvements

The members of the Working Group are in agreement that the stock and derivative markets have taken significant steps to improve their capacities to respond to extraordinary volume and volatility. The SEC believes that these steps should be encouraged further and it will continue its close monitoring of the SROs' efforts to enhance their capacities. In this area, improved stock market procedures and products for trading portfolios (such as stock basket products) are particularly important in light of fundamental changes in institutional trading patterns.

C. Coordination and Contingency Planning

The continuation of the Group will provide a framework for addressing matters that require continued coordination and a forum to facilitate necessary contingency planning, although the Group is not likely to recommend major legislative changes.

D. Coordinated Trading Halts

The Group's approach to coordinated trading halts and reopenings provides a mechanism to address situations where extraordinary selling demands grow too strong.

E. Margin

All group members, except CFTC Chairman Gramm, have concluded that legislation should be enacted to provide for federal oversight of futures margins. In addition, I strongly believe that the FRB should have residual rulemaking authority over margins on all equity and derivative equity instruments, although the other members of the Working Group do not agree.

F. Legislation

Even though the Group's recommendations address many of the important issues confronting our markets, and the SROs are working diligently to improve their markets, there is still a need for legislation, in addition to that proposed for margins and clearance and settlement, to improve the functioning of our markets. The goal of such legislation should be to increase investor confidence in the stability and resiliency of our securities markets. Specifically, I recommend that Congress provide the Commission with: (1) broader emergency authority; (2) authority in cooperation with the CFTC to facilitate the development of an integrated clearance and settlement system; (3) expanded authority to obtain information in the possession of any person affiliated with a broker-dealer; (4) authority to require any person to report, subject to stringent confidentiality and privacy protections, securities transactions above a certain size within a certain time after the transaction. In addition, I believe that the Commission should have centralized oversight of the trading of all equity and derivative equity instruments.

II. The Working Group's Report

In large part the Working Group's Report is self-explanatory. I will note here a few observations.

A. Integrated Clearance and Settlement System

While much has been written about the need for enhanced cross-market clearance and settlement procedures, the Working Group produced the first affirmative program for developing these procedures. This program identifies initiatives to: (1) increase coordination among stock, futures and options clearing corporations, (2) clarify legal obligations, (3) commence pilot programs intended to reduce payment obligations to clearing firms during periods of high volatility, and (4) consider several legislative changes. I believe the prompt and full implementation of these recommendations could reduce substantially the credit uncertainties that affected the markets last October, and I believe the area is so important that legislation should be enacted to foster continued progress. 1/

1/ See infra at pages 11-12.

B. Continuation of the Working Group

The Working Group provides an excellent forum for the frank discussion of important cross-market issues. Although the Group has no decisional authority, it provides a mechanism for evaluating how cross-market issues can be addressed. From this perspective, the Group's continuation will serve a useful function in helping market regulators share information and concerns that cross markets. In addition, this Group can play an important role in our ongoing contingency planning efforts. I do not believe, however, that the Working Group will be a source of recommendations for major legislative change.

C. Coordinated Trading Halts

In recommending coordinated trading halts and reopenings, the Group agreed that there may be times when it is desirable to have a brief halt of the entire market. In that event, it would be desirable to have a pre-established mechanism calling for such a halt. It is important to emphasize that these coordinated circuit breakers are not intended to stop trading for the day. Instead, they provide a short-term respite during which derivative clearing corporations and clearing firms can reduce concerns over contra-party risks and during which information can be disseminated in the stock markets regarding order imbalances. Hopefully, these steps will encourage buyers to reenter the market. Procedures are proposed for reopening analogous to those which have been successfully employed to expose order imbalances on so-called "Expiration Fridays."

In assessing the coordinated trading halt suggestion, two additional points should be recognized. First, it is important to underscore that coordinated trading halts based on 250 and 400 point declines in the Dow Jones Index Industrial Average ("DJIA") are not suggested as an answer to all market volatility. Other solutions to volatility problems need to be examined. Second, nothing in the Report prevents securities exchanges from initiating trading halts in individual stocks when large order imbalances exist. The exchanges must continue to have control over the operation of their markets.

D. Margin Requirements

The Working Group conducted detailed studies that allowed it to conclude that present maintenance margin levels were sound from a prudential standpoint. The Working Group defined "prudential" margin as the maintenance margin levels needed to protect broker-dealers, futures commission merchants, and clearing corporations from investor and trader defaults on their margin obligations. Based on this definition, the Group concluded that present maintenance margin levels help protect

the financial system by averting widespread margin defaults. Of course, no cost-effective margin level can, in itself, protect against extraordinary volatility such as that experienced on October 19. 2/

The present adequacy of margins for prudential purposes should not obscure the fact, however, that futures margins were at substantially lower levels prior to the market break. On October 1, 1987, speculative margin for the Chicago Mercantile Exchange's S&P 500 contract was $10,000 or approximately 6% of the contract value on that date. October 19 and 20 demonstrated the enormous payment obligations which can be generated by derivative market clearing corporations because of low margin requirements. These payment obligations, in turn, require banks to make immediate, large financing determinations in order to avoid placing major broker-dealers and traders in default on their margin obligations. On October 19 and 20, the banks were able to satisfy themselves of the prudence of extending substantial additional credit to securities firms. We should not, however, confidently assume that the result would be the same the next time around. Thus, it is important that we retain the current higher initial speculative (now at $19,000 on the Chicago Mercantile Exchange, or approximately 15% of present contract value) and maintenance margin levels that have been put in place since October in order to reduce directly this payment exposure.

Three of the four participants in the Working Group concluded that some form of federal oversight of futures margin is necessary. Generally, SROs will adopt prudential margin requirements that accord their clearing corporations adequate protection. The possibility exists, however, that, for competitive or other reasons, a market may set margin requirements at levels that impose unacceptable risks on the financial system. I strongly believe that federal oversight is necessary.

Currently, initial margin levels for stock index futures are determined by the futures exchange trading the product, while initial stock margins are set by the FRB. The FRB has delegated to the options exchanges the power to set initial stock index options margins through rules that must be approved by the Commission. Because of the concerns just described, a similar approach for futures would be appropriate and consistent with the observation of the SEC Staff Report, the Brady Task Force Report, the Working Group Interim Report, and

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2/ I want to be very clear that these conclusions do not suggest that current margins are adequate to address all volatility concerns. The Group disagreed on this issue. See discussion in text above and on pages 6-8.

and others, that today's markets are closely tied. The FRB and the Treasury Department agree to federal regulation and support CFTC oversight, while the CFTC supports the status quo. I believe that linked equity and futures markets necessitate harmonious margin levels and similar regulatory structures for setting margins. Thus, I support FRB oversight as well.

Agreement was not reached by the Working Group regarding the appropriateness of employing margin requirements to address excessive volatility. Although the Working Group concluded that for prudential purposes the margin levels were adequate, it disagreed about the use of margin levels to address leverage concerns. The Commission has concluded that there is sufficient concern about high futures leverage, and, as a corollary, serious overestimates of the degree of liquidity in the futures markets, 3/ to warrant temporary increases by the futures exchanges in initial margin levels for stock index futures for market participants, other than floor traders (called "futures locals"), to 20 to 25%. 4/ As noted in the Working Group Report, I believe, at least as an interim measure, that

> [M]argins on futures and options should be increased, in order to increase investor confidence, decrease derivative market speculative activity and reduce the illusion that the derivative markets provide sufficient liquidity to allow investors and traders to liquidate quickly large portions of their portfolios.

Raising the initial stock index futures margin levels for non-floor traders to 20-25% should approximate the level in effect for a limited number of stock market participants. In addition, such a level still would be significantly lower than the 50% level set for the vast majority of stock market participants. Harmonizing futures margins to levels of approximately 20-25% is not a panacea for eliminating stock

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3/ In its February testimony, the Commission concluded that futures products enjoy greater leverage in part because they are cash-settled and have lower margins, and that this greater leverage permits long futures positions to be established with relatively small initial capital. The Commission also suggested that this greater futures leverage permits the rapid liquidation of large positions in the futures market, or at least encourages the perception that such rapid liquidations may be possible.

4/ A "futures local" is roughly comparable to a market maker on an exchange floor.

market volatility. It is, however, a concrete step that will tend to reduce the pressures resulting from high levels of short-term trading strategies in the futures markets until measures to increase stock market liquidity for portfolio trades can be tested. 5/

Nevertheless, it has been suggested that regulators should not attempt to address volatility. The SEC, however, has a responsibility to suggest measures to prevent further decreases in investor confidence during the time when the markets are designing longer term adaptations to evolving institutional trading patterns. 6/ Indeed, I believe that, if individual,

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5/ The suggestion that harmonious margin requirements between markets are desirable is consistent with a 1984 FRB staff study, which concludes that:

> [If] governmentally imposed regulations are thought needed to control the degree of leverage attainable by participants in "each" market in order to forestall excessive fluctuation in stock prices, roughly equivalent margin arrangements are needed in the futures markets. (p. 180)

Congress has recognized that national emergencies "are precipitated, intensified, and prolonged by manipulation and unreasonable fluctuations of security prices and by excessive speculation . . . ." [Securities Exchange Act of 1934, Section 2(4)]. In furtherance of the purpose of preventing excessive speculation, Congress has given to the Board of Governors of the Federal Reserve System the power to "prescribe rules and regulations with respect to the amount of credit that may be initially extended and subsequently extended on any security" [Securities Exchange Act of 1934, Section 7(a)].

6/ It also has been suggested that today's markets are not more volatile than in prior times. Specifically, some suggest that average volatility from January to April was not different from other high volatility years in the last two decades. This suggestion ignores four factors.

First, since January we have had the two largest one-day declines in the DJIA in history -- not counting October 1987. The 6.85% and 4.82% moves on January 8 and April 14 are (not counting the October market break) the largest percentage moves in the last 25 years. These massive moves are all the more significant because they occurred during a time when the market has been trading generally in a relatively narrow range -- from 1,900 to

small institutional and other investors continue to retreat from the securities markets due to perceived higher volatility, such a retreat can present systemic risk to the capital raising ability of our markets.

III. SRO ACTIONS

The Report details, in Section VII and Appendix E, the important and continuing actions the SROs have taken to address the volume and volatility effects encountered last October. This progress is consistent with recommendations made by the SEC and CFTC after the market break and reflects important steps by the SROs toward a more efficient trading environment. These actions are designed to increase the ability of market mechanisms to handle periods of sustained volume and volatility in the future. Rather than repeat those steps in detail, I will highlight a few of the more notable initiatives.

2,100 on the DJIA.

Second, analyzing volatility by looking only at the close-to-close movements of broad market averages ignores the impact on intra-day volatility. Since October 1987, we regularly have seen very large price changes and oscillations within a day, i.e., the zig-zags investors observe as they watch the market during the day. For example, on April 19 and 21, 1988, intra-day declines of 40 and 35 points were observed even though the close-to-close differences in the DJIA were relatively small.

Third, if we are to look at the post-January numbers to evaluate trends in market volatility, we also need to consider the following developments in the markets: (1) the substantial reduction of portfolio insurance activity; (2) the increase in futures margin levels; (3) voluntary compliance with the so-called "DOT-collar;" and (4) reduction in proprietary index-arbitrage activity. Presumably, those who advocate that the markets have returned to "normalcy" would not even have endorsed these actions.

Finally, even if one were to use close-to-close numbers to analyze volatility, the case for reduced volatility has not been conclusively made. For example, the average annualized volatility for the S&P 500 has been higher for each of the six months following October 1987 than the average for the period 1971-1986. Indeed, securities markets participants have testified that the markets have not returned to normal volatility expectations.

A. The New York Stock Exchange

The New York Stock Exchange, Inc. ("NYSE") has responded to the events of last October in several ways. First, the NYSE has reallocated several stocks from specialists whose performance was inadequate. Second, the NYSE has increased substantially the capital required for all specialists. Third, the NYSE has improved its operational capabilities (and subjected them recently to a stress test) in order to increase its ability to handle additional volume. The combined effect of these efforts will increase NYSE specialist capital and give assurance that the NYSE will have adequate operational capacity to deal with higher volume levels.

B. The National Association of Securities Dealers, Inc.

The National Association of Securities Dealers, Inc. ("NASD") also has moved promptly and decisively to address the difficulties experienced last October. The NASD has implemented an automated capability to confirm transactions, the so-called "Order Confirmation Transaction," designed to avoid the bottle necks associated with the telephone system last October. In addition, the NASD has proposed a comprehensive package of initiatives to strengthen market maker participation in NASDAQ and to enhance the liquidity provided by the NASD's Small Order Execution System ("SOES"). The NASD believes that this package, if approved by the Commission, will improve dramatically the ability of the NASD to see that market makers maintain an active participation in the over-the-counter ("OTC") market during periods of stress.

C. The American and Regional Stock Exchanges

The American Stock Exchange ("Amex"), in addition to measures taken to address problems in its options market as noted below, has undertaken several initiatives to increase the efficiency of its stock order routing and execution system. The Amex also has reallocated stocks from several specialists whose performance was inadequate. The regional exchanges likewise have implemented measures to increase the capacities of their order routing and execution systems, and are in the process of conducting tests of their systems' capacities. The Amex and Philadelphia Stock Exchange also have proposed to introduce basket trading on their exchanges. 7/

7/ See Securities Exchange Act Release No. 25495 (March 23, 1988), 53 FR 10311 (March 30, 1988) (Philadelphia Stock Exchange Proposal to Trade a Cash Index Participation); Securities Exchange Act Release No. 25664 (May 5, 1988), 53 FR 16805 (May 11, 1988) (Amex Proposal to Trade Equity Index Participations).

D. The Options Markets

The options markets also are moving to improve the capacity and efficiency of their markets. For instance, the Chicago Board Options Exchange and the Amex reviewed trading performance during last October and have made arrangements for excessive options premiums to be returned to investors. In addition, both exchanges have examined, and are implementing, methods to improve the procedures for opening options. Finally, both markets are exploring methods to increase the ability of their small order execution systems to perform during periods of market stress.

These initiatives by the various markets are important and should not be minimized in evaluating steps that have been taken to respond to the market break. Each market has identified its particular deficiencies and is working constructively to rectify past problems. Moreover, the Commission will continue its close oversight of the efforts by the various markets to monitor continued progress in correcting these deficiencies.

IV. PROPOSED LEGISLATION

A. Recommendations Submitted to the Working Group

Notwithstanding the important efforts by the Working Group and the SROs to solve the problems identified since last October, legislative reform also is necessary.

The Working Group correctly concentrated on the areas included in its Report. Concurrently, the SEC presented to the Working Group legislative recommendations for consideration but did not do so in time for thorough consideration by the Working Group. Proposals for legislative action, other than margin suggestions discussed above, are set forth in general form below. Although I believe they are desirable, the Commission has not yet had an opportunity either to agree on specific language, or to decide that these legislative recommendations should be submitted for Congressional action. This proposed legislation will be considered by the Commission at an open meeting on May 26, 1988.

1. Emergency Authority

I recommend that Congress provide the Commission with authority, to supplement the authority provided by Section

EXHIBIT A

Excerpt From Testimony of David S. Ruder, Chairman, SEC, Before The Senate Committee on Banking, Housing, And Urban Affairs, on March 31, 1988.

The Commission has recommended a more coordinated credit, clearing and settlement system across markets. As the Brady Task Force concluded, investors and professionals trading futures on stock-indexes and underlying securities treat the various markets as a single unified market. Clearance and settlement of transactions in these markets should be coordinated to the greatest extent possible.

Currently, investors and professionals trading simultaneously in the futures, options, and stock markets must participate, or clear their transactions through clearing agents that participate, in clearing organizations that service each of these markets. For example, a transaction involving a purchase of exchange traded index options must be cleared through the Options Clearing Corporation, a purchase of a futures contract on the Chicago Board of Trade must be cleared through the Chicago Board of Trade Clearing Corporation, and a sale of stock on the New York Stock Exchange would typically be cleared and settled through the National Securities Clearing Corporation and The Depository Trust Company.

Despite the need for better coordination, clearance and settlement of all futures, options, and stock transactions through a single entity is impractical in the short term and may be ill-advised in the long term. Existing clearing organizations serve the unique needs of the stock, options, and futures markets and allocate default and credit risks differently to meet the requirements of those markets. These needs are best recognized in separate clearing systems. Additionally, unified clearing of transactions through a single organization might have the effect of transfering credit risks from one market to the other, or even to other sectors of the economy, particularly the banking industry.

Unified clearance and settlement of related options and futures contracts could be advanced considerably, however, through the development of facilities for centralized clearance of options and futures contracts in a manner that has been proposed by the Intermarket Clearing Corporation and the Options Clearing Corporation. Establishing a single facility (or interfaced competing facilities) to hold both options and futures positions would facilitate credit decisions, enhance dealer and market liquidity, and reduce credit risks associated with those positions.

Development of unified options and futures clearance facilities could be integrated with stock clearing organizations to form a network of interfaced, coordinated clearing organizations serving each of the different stock, options, and futures markets. Improvements must be pursued to expand current informal information sharing arrangements; to coordinate member payments to different clearing organizations; and to rationalize the time frame for those payments to permit members and their bankers to know their positions and risks and to permit timely movements of payments.

I am hopeful that the Working Group can reach a consensus in this area. Even if consensus is reached, however, several legislative initiatives may be required in order to facilitate the development of a unified clearance and settlement system.

First, bankruptcy laws affecting securities brokers and futures commission merchants ("FCM") engaged in inter-market activity (for their own and customer accounts) must be harmonized. Uncertainty concerning the treatment of intermarket positions in the event of broker-dealer or FCM insolvencies prevents, among other things, commitment of capital to finance dealer and customer positions necessary for liquid markets. More specifically, competing claims to positions in stock index futures, in the event of FCM insolvencies, are governed by the Bankruptcy Act and CFTC regulations. Competing claims to securities and options positions are governed by the Bankruptcy Act and by the Securities Investor Protection Act. Customers of securities broker-dealers benefit from federal insurance administered by the Securities Investor Protection Corporation but FCM customers do not. Moreover, the CFTC has authority to clarify, by rule, terms affecting priorities for FCM bankruptcies, but the Commission does not have similar power for broker-dealers. Thus, for example, the Commission lacks authority to provide, through rulemaking, for uniform treatment of customers in the event of broker-dealer insolvencies.

Second, the laws of the various states lack uniform requirements for transfers and pledges of options, and transfers and pledges of certificated and uncertificated stocks. Those requirements are set forth in state commercial statutes (adapted from Articles 8 and 9 of the Uniform Commercial Code) that vary significantly from jurisdiction to jurisdiction. Approximately 25 states do not have statutory standards recognizing uncertificated securities. Judicial interpretation of those laws also varies among states, and determining which law to apply in multistate transactions can often be an extensive exercise. Investors, market professionals and their lenders should have a single, clear set of rules for the transfer and pledge of securities, similar to those being developed by the U.S. Treasury Department for transactions in U.S. Government Securities.

Moreover, state commercial laws appear to hamper the development of safe and efficient facilities for clearance and settlement of cross-border transactions. Article 8 of the Uniform Commercial Code appears to preclude clearing organizations from using non-U.S. depositories to hold securities certificates outside the United States. Efficient processing of transactions across borders in global securities markets requires securities certificates to be immobilized in the issuer's country of domicile, with deliveries on the books of clearing organizations in other market centers. Changing commercial laws in certain states with stock and options markets could take several years and may not be an adequate response since investors and professionals may be located anywhere in the United States. The laws of the states in which they, rather than the markets, are located might be applied to invalidate such book-entry deliveries. I have requested that the Commission staff review whether legislation authorizing the Commission to establish federal rules for the transfer and pledge of stock and options would be desirable.

The CHAIRMAN. Thank you, Chairman Ruder.
Chairman Gramm.

STATEMENT OF DR. WENDY L. GRAMM, CHAIRMAN, COMMODITY FUTURES TRADING COMMISSION

Dr. GRAMM. I would just like to briefly summarize my comments if my full statement can be put in the record.

The CHAIRMAN. We appreciate that very much.

Dr. GRAMM. Thank you. I appreciate the opportunity to be here this morning.

The Working Group indeed has accomplished a lot. During the first 60 days since the creation of the Working Group, the four agencies charged with oversight of the Nation's financial markets addressed and agreed on many fundamental intermarket issues, including many of the same issues raised by the Brady Commission and others following the October market decline.

CRITICAL AREAS OF AGREEMENT

The critical areas of agreement between members of the Working Group include coordinated trading halts across financial markets. This is really an historic development that responds directly to the Brady report, which calls for coordinated circuit breakers across markets.

In the area of coordinated credit clearing and payment systems, the Working Group has identified specific measures that can be taken immediately to improve the security and coordination of the clearing and settlement systems.

In addition, the Working Group has identified more profound structural changes in the credit and clearing systems that should be explored.

In the area of prudential margin levels for equities and stock index futures, I would say that while the Working Group did not agree on the appropriate scope or form of Federal oversight concerning margins, we unanimously agreed that the current margin levels provide adequate protection for financial systems against investor or trader defaults.

The Working Group also agreed that consistent margins across markets for these prudential purposes or safety purposes require significantly higher margin levels for individual stocks than for stock index futures. And if you would refer to the substantial amount of work done by staff indicated in the appendix here, you will see that that level implies a need for significantly higher margins, on the order of multiples, for individual stocks as compared to stock index futures.

Also in this area, I might point out that indeed the members of the Working Group did agree that for safety and soundness purposes the appropriate entity for margin setting ought to be in the first instance the individual SRO—that is the self-regulatory organization at the exchange level—because not only do they have the expertise and knowledge to be able to respond quickly to changing market conditions, but they also have the financial stake at hand to set the margins neither too high nor too low.

I might add, on margins, that the CFTC and I believe that we do have sufficient authority in our emergency powers, as well as moral suasion that is sufficient authority already existing over margins and, therefore, do not see any need or any evidence to suggest that we should have further Federal authority over margin setting.

CONTINGENCY PLANNING

With respect to contingency planning the Working Group will continue to meet to ensure interagency coordination and consultation on intermarket issues and I fully agree with that.

Collectively, the actions of the Working Group will enhance the integrity, efficiency, orderliness and competitiveness of the Nation's financial markets. In the long run these actions will also help to restore and maintain the confidence of investors, both large and small.

In addition to the activities of the Working Group, a great deal has occurred outside the auspices of the Working Group. We recognize and applaud the significant actions already taken by private market participants, self-regulatory organizations, and regulatory agencies. And I would add, Senator, that many of these actions were coordinated. They were coordinated with other exchanges if the need was there. They were coordinated with the regulatory bodies. Indeed, many of them were taken in response to the recommendations the regulatory bodies have made and we have certainly discussed a number of these recommendations, so they have been coordinated where it's been appropriate to have that coordination.

During the past 60 days, the Working Group has developed broad areas of consensus, as well as an analytical approach which should facilitate the resolution of remaining issues and we are committed to striving to find common ground as our work continues.

I would also like to point out that we have had a substantial amount of work done by the staffs of the various agencies.

I would, if I could, take a few minutes to address some of the issues that were raised in the opening round of comments. I know that you will probably want to raise those issues and Secretary Gould has indicated he wanted to respond to them and Chairman Greenspan as well, but let me take a few minutes.

First of all, with respect to the issue of program trading, there has been a lot that's been said about program trading and whether or not it exacerbated the market decline and I would add that the empirical evidence on that is very mixed at best. Program stock sales accounted for less than 15 percent of the New York Stock Exchange volume on October 19 and a lot of that was just involving cash sales and was not necessarily related to the futures market.

With respect to index arbitrage, some people seem to be using the term program trading to mean index arbitrage, though program trading is a much broader term. Nonetheless, with respect to index arbitrage, there was essentially very little index arbitrage which involved the futures markets or the options markets. There was very little index arbitrage after about mid-day on October 19 the markets were unlinked—so one questions to what extent index

arbitrage could have exacerbated the market decline and, indeed, it may have been the opposite.

I would also point out that the stock market decline was worldwide and in many other countries there is not even a futures market, much less stock index futures.

On the issue of physical delivery and raising margin requirements, I think there has been quite a bit of empirical academic evidence over many years about the ability of margins to affect speculation or leverage Chairman Greenspan has mentioned in his testimony and I agree that we have looked at that and the Working Group has looked at that vast body of evidence. There is very little to indicate that changing the margins would reduce leverage or speculation in the market and I would say the same goes for physical delivery. Both those recommendations would simply raise the cost of doing business in the futures market alone, but would have very little impact on speculation in either market. You have to remember that the futures markets are there for hedging purposes. They were developed for hedging purposes over many years, and there is not really an unusual relationship between the stock market and the futures market. That relationship exists for all futures contracts and the underlying cash market. They are linked. The market for pork bellies, or for Treasury bond futures, for example, are related to the underlying products and that is understood. That doesn't necessarily mean that you should have the same people regulating both those markets.

I'd like to make one final comment on investor confidence. There are a number of issues with respect to investor confidence that the Working Group cannot address, like the macroeconomic fundamentals that cause a change in investor confidence and macroeconomic fundamentals were indeed part of the problem in causing the decline in the markets in October.

I think we should not equate low trading volume with low investor confidence. Just because trading volume is low does not mean all investors have lost confidence. A lot of small investors are involved in these institutional accounts. These large institutions do represent many small investors.

Now it is true that the market shock may have driven some investors from the market because of uncertainties, not only uncertainties about the price but about whether or not their orders were actually executed. They couldn't get through to their broker or they couldn't get through to the floor of the New York Stock Exchange. A lot of those problems are being addressed and have been addressed the Working Group and by the SRO's. If businesses today are not raising as much capital on today's markets as they were pre-October, maybe they are adhering to the adage that one should buy low and sell high and maybe they're going to wait, as I think many small investors may indeed want to wait and see what happens and see whether or not the market capacities and the structural uncertainties in the markets are indeed "fixed," you might say. And that's exactly what we've been addressing.

Thank you.

[The complete prepared statement of Chairman Gramm follows:]

12(k) of the Securities Exchange Act of 1934 ("Act"), 8/ to take a variety of steps in a market emergency. Even should this authority be given to the Commission, the SROs still will remain the primary decision-makers in an emergency. The SROs have first hand knowledge of the conditions in their markets and can be expected to act responsibly. Nonetheless, in light of new trading strategies and market structures, the Commission should have the authority, roughly equivalent to the CFTC's current emergency authority, to act in an emergency to implement a variety of measures, including margin changes, delayed openings, early market closings, and temporary trading halts. 9/

2. Integrated Clearance and Settlement

I believe it is imperative to move to a more coordinated credit, clearance, and settlement system across markets. As the Brady Task Force concluded, investors and professionals trading futures on stock indexes and underlying securities treat the various markets as one closely linked market. Clearance and settlement of transactions in these markets should be coordinated to the greatest extent possible.

The Working Group reached a consensus on a number of possible legislative initiatives in this area. Specifically, the Working Group agreed to consider legislation that would harmonize bankruptcy laws affecting securities brokers and futures commission merchants engaged in inter-market activity (for their own and customer accounts). In addition, the Working Group agreed to consider changes to state commercial laws relating to international transactions and transfers and pledges of options and uncertificated securities. 10/

More importantly, the Working Group also recommended a series of steps that can be implemented under existing authority to increase the efficiency and coordination of

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8/ Among other things, Section 12(k) authorizes the Commission, with the President's approval, to suspend trading on all exchanges or OTC in non-exempt securities for up to 90 days under certain circumstances.

9/ See Section 8(a)(9) of the Commodity Exchange Act. Section 8(a)(9) empowers the CFTC to direct contract markets to take appropriate action to maintain or restore orderly trading, including increasing margin, whenever the CFTC believes an emergency exists.

10/ These issues are discussed in detail in Exhibit A, which contains excerpts from my testimony before this Committee on March 31, 1988.

clearance and settlement within and across futures and securities markets, and suggested steps that would facilitate evaluation of the benefits and costs of further coordination. To devise the most efficient and desirable clearance and settlement systems in light of rapidly changing markets, it is appropriate that the CFTC and SEC have the regulatory flexibility to accommodate and encourage a range of future developments in this area.

As a consequence, I recommend legislation facilitating integrated clearing and settlement facilities among markets. This will require substantial effort on the part of the securities, commodities, and banking industries, as well as their regulators. Those efforts must be coordinated if the nation's capital markets are to retain investor confidence as the world's premier marketplaces. Both the SEC and the CFTC should be directed to facilitate the goal of integrated, cross-market clearance and settlement systems. In 1975, Congress amended the Act to direct the Commission to facilitate the development of a national market system and a national system for the clearance and settlement of securities transactions. Similar amendments to Section 17A of the Act and the Commodity Exchange Act should be enacted to establish the goal of integrated, cross-market clearance and settlement systems as a national priority. Those amendments would permit the securities, commodities, and banking industries to shape the structure of such systems, but would provide appropriate federal oversight and coordination through cooperative federal regulation.

3. Holding Company and Affiliate Risk Monitoring

Uncertainty concerning the total risk exposure of participants in the stock, options, and futures markets exacerbated conditions during the market break. Timely, accurate, and complete assessment of that risk exposure on a routine basis is essential to safe markets. Information necessary to assessment of securities market participant risk exposure is not always available, however, because financial exposure to these market participants can emanate from unregulated corporate affiliates conducting a variety of different financial activities. For example, holding companies of some investment banking firms engage in bridge financing transactions. In these transactions, the holding company commits its own capital, often for acquisition-related or leveraged buy-out transactions with investment banking clients of their subsidiary broker-dealer. Also, some broker-dealers have large affiliates that deal actively in foreign currencies, mortgages, and interest-rate swaps. Financial difficulties encountered by these entities, or major international affiliates, inevitably would impact the ability

of the U.S. broker-dealer to continue to obtain the short-term financing necessary to meet its settlement obligations.

Requiring holding companies and affiliates to maintain records and to report information concerning their unregulated financial activities when these activities might have a material effect on the affiliated broker-dealer would help to reduce uncertainty concerning securities market participant risk exposure. To avoid duplicative reporting, information in possession of affiliates of a regulated entity, (e.g., a bank, a futures commission merchant, or an insurance company), need not be directly available to the Commission but could be available to it on request of the appropriate regulators. Accordingly, I believe it is appropriate to adopt legislation that would authorize the Commission to establish recordkeeping and financial reporting requirements for holding companies and affiliates of registered broker-dealers, government securities dealers, and municipal securities dealers.

4. Large Trader Reporting

At the present time, the NYSE audit trail system tracks over 1,500 securities. The Commission, through its staff inspection program, has found that the SROs are diligently continuing to improve the quality of their audit trail data. SRO audit trail and surveillance systems have been highly effective in detecting trading violations. Indeed, from 1984 to the present, the stock and options exchanges have completed 503 disciplinary actions involving trading violations. 11/ Nevertheless, SRO surveillance and trade reconstruction efforts would be further enhanced by the development of "large trader" information systems for the stock market. Accordingly, I believe it would be appropriate to require investors to report large transactions. This requirement would enable the Commission more easily to identify and monitor the activities of significant investors in the equities markets. Strict confidentiality and privacy protections must be an essential part of any such legislation.

B. Consolidation of Regulatory Authority

11/ These figures do not include an additional 481 actions for position limit violations for index and equity options. Trading violations encompass, among other things: frontrunning; stock, option, or stock/option manipulation; stock or options marking; wash or prearranged trades; fictitious trades; and short sale violations.

In the Commission's February testimony, 12/ a majority of the Commission recommended greater consolidation of regulatory authority over the securities and stock index futures markets. Two possible ways to achieve this goal are: (1) to provide the Commission final regulatory authority with respect to critical intermarket issues such as trading halts, coupled with amending the Commodity Exchange Act to permit the Commission to review new and existing stock index futures contracts to determine the impact of such products on the orderly operation of the stock market; 13/ or (2) to provide the Commission direct regulatory authority over stock index futures.

Either of these approaches would require legislative changes. While the ongoing coordination efforts among the SROs and the agencies may accomplish much of the desired regulatory reforms, I continue to believe that a more consolidated regulatory structure for these closely linked markets is the most rational approach as a matter of public policy and would increase investor confidence. Nevertheless, I do not believe that a recommendation for regulatory consolidation should divert attention from the immediate need to implement the Working Group's recommendations or for the need to adopt other legislation I am recommending.

V. CONCLUSION

The events occurring in October demonstrated both the remarkable resiliency of our markets and the need to make improvements. The securities SROs have taken significant steps since October to improve their markets. I am hopeful that these efforts, coupled with continuing coordination and action by the futures and securities SROs and regulators, the FRB, the Administration, and Congress will achieve the reforms necessary to avoid a repetition of the October market break.

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12/ Testimony of David S. Ruder, Chairman, Securities and Exchange Commission, Before the United States Senate Committee on Banking, Housing, and Urban Affairs, February 3, 1988, at pp. 28-31.

13/ This action would be coordinated with expansion of CFTC and FRB authority to provide federal oversight of margin regulation.

TESTIMONY OF

DR. WENDY L. GRAMM

CHAIRMAN

COMMODITY FUTURES TRADING COMMISSION

BEFORE THE

COMMITTEE ON BANKING, HOUSING AND URBAN AFFAIRS

UNITED STATES SENATE

MAY 24, 1988

Mr. Chairman and Members of the Committee:

The Working Group on Financial Markets was established by Executive Order on March 18, 1988, to cooperatively address the complex issues involved in the market break in October of 1987. For two months the Working Group, composed of Chairman Greenspan of the Federal Reserve Board, Chairman Ruder of the Securities and Exchange Commission, Undersecretary Gould of the Treasury Department (designated by the Secretary of the Treasury) and I analyzed these issues and reviewed the numerous recommendations made in the wake of last October's market decline. The Working Group identified as its primary mission addressing the major uncertainties in the financial system which pose the risk of disruptions in that system, and focused on specific actions that could be taken now and in the near term to substantially lessen these risks.

On May 16, 1988, we presented our report to the President. The Working Group Report indicates that steps can and have been taken, and agreement can be reached to address complex inter-market issues within the context of a continuing Working Group dialogue and continuing intermarket discussions at the exchange level. Moreover, this process indicates that effective changes can be implemented without the existence of a more formal structure on top of existing regulatory and self-regulatory arrangements.

Accomplishments of the Working Group

The Working Group reached agreement and made recommendations in a number of critical areas, including:

- an unprecedented agreement on coordinated circuit breakers in the cash and derivative markets to allow for cooling-off periods during times of high market volatility;
- agreement that current margins in equities and futures [illegible] are adequate for prudential purposes; that minimum margins for prudential purposes for an individual stock should be significantly higher than that required for a stock index futures contract;
- agreement on recommendations for the credit,

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clearing, and payment systems to ensure even greater coordination among markets and to avoid systems gridlock; and

- o agreement on contingency planning, including agreement that the Working Group continue to meet in order to ensure continuing coordination and a forum for consultation in the event of future market disruptions.

The Commodity Futures Trading Commission (CFTC or Commission) concurs in these findings and recommendations.

Coordinated Trading Halts and Reopenings

Perhaps most significantly, the Working Group recommended action to avoid ad hoc disruptions of the market by recommending a "circuit breaker" mechanism which would operate across all markets. The circuit breaker would use pre-established limits that are broad enough to avoid being tripped except on rare occasions, but narrow enough to permit the payment and credit systems to keep pace with extraordinarily large market moves. In broad outline the Working Group recommended that all U.S. markets for equity and equity-related products -- stocks, individual stock options, and stock index options and futures -- halt trading for one hour if the Dow Jones Industrial Average (DJIA) declines 250 points from its previous day's closing level. The markets then would reopen under procedures designed to highlight

order imbalances before actual trading begins. A second closing, this time for two hours, and reopening will occur if the DJIA declines 400 points below its previous day's closing level.

In addressing market reopening procedures, which are as important as closings, the Working Group recommended that the New York Stock Exchange model these procedures after those used on so-called Expiration Fridays. These special procedures were arrived at through the cooperative efforts of the securities and futures markets and their regulators to address third Friday volatility. They would enhance the information made public about market conditions and order imbalances, thereby facilitating the making of buy or sell decisions during volatile periods.

Members of the Working Group consulted with the self-regulatory organizations ("SROs"), as well as with knowledgeable industry participants, about the design of these procedures. In particular, I worked with the futures SROs that offer equity index products. The SROs agreed to alter previous circuit breakers installed unilaterally during the market crisis. With the Working Group as a whole, I strongly believe that these recommendations can be implemented most effectively and expeditiously by SRO-initiated rule changes, subject to appropriate notice, comment and agency review.

Analysis of Prudential Margins

The Working Group studied existing margin systems and requirements, focusing on how well these systems operate to insulate the markets from default and on exemptions in the stock, futures, and options markets for particular classes of traders or trades. A number of important conclusions were reached as to the appropriate level of margins for the prudential purpose of protecting the integrity of the financial system and as to the consistency or harmony between margins on individual stocks and those on stock index futures and other equity derivative products.

Based upon extensive analysis of the historical movement of prices for individual stocks, stock indices, and stock index futures, as well as settlement practices in the stock and futures markets, the Working Group calculated the margin levels sufficient to cover price movements with varying degrees of confidence (i.e., 90%, 95%, 99% of the time.) This analysis, in which all Working Group members concurred, revealed that current levels of margin are more than adequate for the prudential purpose of protecting broker-dealers, futures commission merchants, and clearing corporations from investor and trader defaults on their margin obligations.

The adequacy of futures margin levels can be judged by examining the risk of exceeding a given margin level over relevant past periods. Based on data from the period January 1986 to April 1988, margins of slightly more than 5% of contract value in the futures market would have protected against 99% of observed price changes. Based on data for the post-October period, November 1987 through April 1988, that same 99% likelihood of price change coverage would require margins slightly less than 8% of contract value.

On October 16, 1987, maintenance margin required by the Chicago Mercantile Exchange on its S&P 500 futures contract was $7,500, representing approximately 5% of contract value on the close that day. Currently, S&P 500 futures maintenance margin is $10,000, representing approximately 8% of the contract's value at the close of last week. Thus, maintenance margins were and currently are adequate to cover 99% of observed price changes. Initial margins were and continue to be set at significantly higher levels than maintenance margins.

Members of the Working Group concluded that margin levels sufficient to provide protection against all possible price movements (as opposed to 95% or 99% of all price movements) would impose unacceptable costs on market participants and could reduce the liquidity and efficiency of markets. For extreme price movements, other mechanisms, such as capital requirements,

clearing-fund guarantee deposits, and intra-day variation margin payments, are in place to protect the system against defaults. These additional mechanisms worked well during the week of October 19. In addition, implementation of the Working Group's recommendations on a circuit-breaker mechanism and improvements and clarification as to responsibilities in the credit, clearing, and settlement systems should add significant protections against financial system risks from extreme price movements.

The Working Group's technical analysis, performed by agency staff members, demonstrated that a consistent and harmonious margin regime across markets requires a significantly higher prudential margin level for individual stocks than for stock index futures. This conclusion follows from two facts: stock indexes have a smaller percentage price variability than do individual stocks; and the settlement or grace period in the futures market is markedly shorter than the period for stocks.

The degree of harmonization of individual security and stock index futures margins can be judged, for example, by comparing the margins required to prudentially protect against the price changes of 80% of the individual stocks in a representative index, such as the Institutional Index, with the margin required for the S&P 500 futures contract over a meaningful period such as January 1986 through April 1988. The margin level required to protect against 99% of the price changes in 80% of the stocks

comprising the Institutional Index, given a five-day collection period for margin calls and settlement, was slightly more than 17%. The margin necessary to protect against stock-index futures price changes, given their one-day period of collection for margin calls and settlement, was slightly more than 5%. Based on this example, then, the margin on individual stocks should be roughly three and a half times the margin on stock index futures for consistency. The multiple would be somewhat less if three-day settlement were the practice in the cash market.

The Working Group's analysis of prudential margins makes it quite clear that consistent margins will vary significantly across markets without conferring any special competitive advantage on one market or disadvantage on another.

Margins and Volatility

As reported in the Working Group's Interim Report, the Treasury, Chairman Greenspan, and I do not believe that the evidence supports the conclusion that higher margins will reduce volatility. In fact, it is our belief that higher margins will raise transaction costs and have a negative effect on market liquidity and efficiency, thus, possibly increasing rather than reducing volatility. Increasing margins also risks moving futures trading into off-shore markets.

The CFTC concurs in the view that raising margins beyond prudential levels would have the effect of increasing transaction costs, with severe risks to the efficiency and competitiveness of the U.S. financial system that would likely outweigh any benefits. However, markedly increasing margins above prudential levels would not meaningfully improve the market's financial integrity or provide additional protections to market users. Thus increasing margins would increase costs while providing no additional benefits in return. Moreover, higher margins could reduce participation in the futures markets by smaller market participants, as well as market makers and, hence, adversely affect liquidity in the markets.

The higher costs imposed by increased margins may cause the market to shift to another location not subject to those costs and not subject to U.S. regulatory systems. Once the advantages of liquidity are lost, such advantages may not be regained by removing those impediments. The risk of losing a market to an off-shore location is dramatically more likely for a limited number of cash-settled derivative products than for stocks themselves, whose primary market is likely to remain domestic.

The Commission sees no evidence that the level of margins for stock index futures had any significant impact on the rise of stock prices during the recent bull market nor on the collapse of stock prices in October 1987. Futures margins did not encourage

significant speculative participation in securities prices because the stock index futures market historically has consisted largely of institutional rather than speculative traders. Since these institutional futures traders generally are unleveraged, and as their futures trading represents an extension of their stock market trading and strategies, their activities in futures should not have an independent effect on stock price levels. In addition, during the price break on October 19, only a minority of traders were speculators -- including local traders -- and these traders tended to be a stabilizing influence since they were net buyers of stock index futures.

Margin Setting Authority and Federal Oversight

The members of the Working Group unanimously supported the view that the primary responsibility for setting margins in all markets should be with the SROs, which have the closer proximity to timely trading information and economic stake to perform this role most effectively. There was disagreement, however, about the appropriate scope and form of federal oversight of margin setting.

The CFTC believes that the current approach to setting margins on futures -- authority to set margins on a day-to-day basis resting with the SROs, with emergency authority residing in the CFTC -- is entirely appropriate. This view is based on the

functioning of the "pay as you go," daily mark-to-market system of futures margins, on the strong incentive for firms to protect their capital, and on a historical record of success: No customer funds were lost in October in a clearing member default. The CFTC's emergency power is supplemented in more normal circumstances by its power of moral suasion. For example, the CFTC recommended in the Financial Follow-up Report that stock index futures margins be reviewed to determine whether they provided an adequate cushion for aberrant price moves and concentrated positions. The exchanges reviewed their margins and increased them.

Improving the Intermarket Coordination of Clearing and Settlement Systems

The Working Group analyzed and made a number of recommendations concerning actions that could be taken to reduce uncertainty, increase coordination, assure confidence in the integrity of such systems, and facilitate their smooth operation in volatile markets. These actions go a long way toward coordinating the clearing and settlement process, can be undertaken in the short term and can be accomplished without legislation.

It is important to note that the current system of multiple, independent clearing organizations performed well during the

market break, and continues to provide important diversification to our financial system. Under this system of separate clearing organizations, risk is compartmentalized. It is possible that one clearing organization could experience operational problems without such problems spreading to other clearing organizations or having a critical impact on other parts of the market. In addition, the existence of multiple clearing organizations has, over the years, resulted in innovative methods of clearing trades and state-of-the-art technological improvements, while keeping clearing costs at a competitive level.

The CFTC agrees with the Working Group that the securities, futures and banking industries should explore and pursue initiatives to ease potential system stresses by further reducing the size of payment obligations. These initiatives, for example, should include pilot programs in cross-margining. The Group believes, and the CFTC agrees, that by undertaking the recommended specific actions and then evaluating the results, we can better determine the necessity for, and the relative costs and benefits of, more profound structural changes to securities and derivative markets clearing and settlement systems.

Continuing Coordination

The CFTC believes that continuation of the Working Group, as it is currently composed, is the most appropriate way to continue

the process of addressing intermarket issues. The existence of the Working Group also facilitates and enhances our contingency planning efforts.

Much has been accomplished in a short period, but work on a number of issues has not been completed. While we agree with the recommendations of the Brady Commission and others that there should be some regulatory mechanism to resolve continuing intermarket issues, we believe cooperative efforts under the existing regulatory structure will be more effective and less disruptive than a more formal, legislated structure. Indeed, major regulatory restructuring at this time -- and the ensuing uncertainty it would spawn -- would distract attention from the critical, substantive issues that need to be addressed first.

The Working Group has established a cooperative framework in which regulators, self-regulatory organizations, and market participants can work together to resolve intermarket issues. Importantly, the Group has proven that consensus on significant reforms can be achieved under its aegis and already has made demonstrable progress on the issues deemed most critical to the market's smooth functioning and investor confidence. These efforts provide a common ground for future efforts. Equally important, the Working Group has created a process for further interagency cooperation on such intermarket issues as clearing

and settlement, contingency planning, monitoring implementation of its recommendations, and resolving the remaining issues.

Actions by the CFTC and the SROs Since October 1987

Since the October market break, the CFTC has completed four major studies of futures activity during October, 1987, (previously submitted to this Committee), made recommendations to futures SROs concerning program enhancements to strengthen protections in volatile markets, monitored SRO progress in responding to CFTC recommendations, initiated improvements in its own data collection processes and data bases, coordinated and consulted with other Federal regulatory agencies in addressing contingency planning and other post-market break responses, and communicated with foreign regulators to promote information-sharing and cross-border financial surveillance.

Following the market break the Commission initiated efforts to improve its data systems to provide more complete and timely data for analysis in the event of continued volatility in the stock market and to enhance its financial surveillance data base. With respect to the CFTC's large-trader reporting system, Commission staff has taken steps toward implementing a special identification system for tracking institutional accounts. The staff also is reviewing the levels at which the positions of large traders in stock index futures currently are reported to

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the Commission in terms of the proportion of open interest represented by reporting traders and the number of traders being reported. Commission staff also is exploring ways in which data currently collected and used by the Commission and futures exchanges for market and financial surveillance can be refined to enhance financial surveillance.

Even before the Working Group was formed, the CFTC was consulting with the SEC, the Federal Reserve Board and the Department of the Treasury to address intermarket coordination and contingency planning issues raised by the market break. In addition, the CFTC is coordinating with foreign regulators in a number of areas including financial surveillance and information sharing.

While the CFTC's staff reports reflect that existing regulatory and self-regulatory protections functioned effectively during October 1987, the CFTC has carefully reviewed SRO programs, as well as its own systems, to identify areas in which each can be strengthened. The CFTC has actively monitored the activities of futures SROs in response to these recommendations and encouraged enhanced coordination among futures exchanges, securities exchanges and clearing banks involved in the futures and securities settlement processes. As a result, the futures SROs have effected many system improvements since the market

break which respond to the CFTC's recommendations and have taken steps toward more formal inter-market coordination.

The CHAIRMAN. Well, thank you Chairman Gramm. I want to thank each of you witnesses for vigorous and thoughtful statements and I want to indicate, although I disagree with three of you four very vigorously, I want to make it clear that I have great admiration and respect for your abilities.

Chairman Ruder, you're the one member of the second task force that makes the case for the Brady Commission position that there ought to be some kind of harmonization of margin requirements.

You say on page 6 of your prepared statement, "I believe that linked equity and futures markets necessitate harmonious margin levels and similar regulatory structures for setting margins." Then you go on to say, "The SEC has concluded there is sufficient concern about high futures leverage and as a corollary serious overestimates of the degree of liquidity in the futures markets to warrant temporary increases by the futures exchanges in initial margin levels for stock indexes," and you say 20 to 25 percent, and then you go on to point out that this would put it well below—less than half—what the overwhelming majority of investors have to have as margin requirements on the stock exchange, and that only a few professionals have a 25 percent.

REDUCING VOLATILITY IN THE MARKET

Let me ask you how this will, in your judgment, reduce volatility in the market.

Mr. RUDER. Yes, sir. The problem starts with I think a different analysis of the markets than Mrs. Gramm has given us. The analysis of the markets which we have reached is that there was significant institutional trading during the 19th and 20th. We measured trading at 10 minute intervals and we found that at significant times on those days the amount of institutional trading was between 35 percent and 65. That institutional trading took place at the times in which there were dramatic changes in the levels of the market.

We believe that institutional trading was made possible because of the accumulation of overly large portfolios of equities by the institutional traders, partly because they expected that they would be able to exit the stock market and the derivative markets easily and that for that reason there was this unexpected decline in our markets.

The reason that we think that margins on the futures exchanges should be increased on a temporary basis is that we believe that, by telling individuals in the market that they must put up more money to buy the equivalent of shares, that the institutional traders and others will be less likely to accumulate large positions, less likely to have positions which are excessive, and they will be at least given some indication that at the present time the liquidity in the markets is not sufficient to allow them to exit in dramatically quick way.

Senator, if I could be sure that the liquidity in our markets, including the futures market, was sufficient to absorb the kind of institutional selling that we had on October 19 and 20, I would not be nearly so concerned that we take some measures to slow down those markets, the derivative index markets, for a temporary time.

The CHAIRMAN. Let me ask you this. I think that Secretary Gould has said his critics—and you may or may not be one of them—or those that disagree with him have ignored the lessons of history in volatility. He has charts that purport to show that the volatility is no worse now than it was before. And I stress this because it's in a footnote and few people read footnotes, but in a footnote on page 7 I think you make a devastating response.

You say:

It's been suggested that today's markets are not more volatile than prior times and specifically some suggest the average volatility from January to April was not different from other high volatility years.

Then you point this out,

Since January, we've had the two largest 1-day declines in the DJIA history, not counting October 1987. The 6.85 percent and the 4.82 percent moves on January 8 and April 14, not counting the market break, was the largest percentage moves in the last 25 years. These massive moves are all the more significant because they occurred during a time when the market had been trading generally in a relatively narrow range from 1900 to 2100 on the Dow. Second, analyzing volatility by looking only at the close-to-close movements of broad market averages ignores the impact on intraday volatility. Since October 1987 we regularly have seen very large price changes and oscillations within a day.

You go on to document that.

Then you say:

Third, if we are to look at the post-January numbers to evaluate trends in market volatility, we also need to consider the following developments in the markets: (1) the substantial reduction of portfolio insurance activity; (2) the increase in futures margin levels; (3) voluntary compliance with the so-called "DOT-collar;" and (4) reduction in proprietary index arbitrage activity.

Finally, even if one were to use close-to-close numbers to analyze volatility, the case for reduced volatility has not been conclusively made. For example, the average annualized volatility for the S&P 500 has been higher for each of the 6 months following October 1987 than the average for the period 1971 to 1986. Indeed, securities markets participants have testified that the markets have not returned to normal volatility expectations.

Would you like to say anything more in response to Secretary Gould's statement that you have not looked at history with sufficient realism?

Mr. RUDER. I certainly do concur in what you have just read since it's my testimony, but I would like to tell you that our informal discussions with market participants indicate a great fear even by the large institutions concerning volatility in these markets.

They are concerned that if they take positions in these markets that there will be substantial declines in the markets which are unrelated to the underlying values of the stocks that they have purchased. They are concerned about the rather mysterious times in which there seems to be demand coming into our markets which seems to be unrelated to any underlying values and I think it's a serious problem which needs to be addressed at least in the near term until we can find out whether there is going to be sufficient liquidity to meet all the demand.

The CHAIRMAN. Thank you, sir.

My time is up.

Senator BOND. Thank you, Mr. Chairman.

FRIGHTENED SMALL INVESTORS

Secretary Gould, we've heard testimony from several very prominent Wall Street figures who told this committee that stock index futures and index arbitrage are ruining the stock market by causing the volatility that's frightened the small investors.

I take it that you would disagree with this view and I would like your comments on it.

Mr. GOULD. Well, we have to start off at the first level I think saying that the people particularly—we'll leave out the former Secretary of the Treasury for the moment—but if we focus on the other two panelists, you had a gentleman who runs a major discount brokerage, Mr. Schwab; and you had the chief executive officer of a heavily retail firm, Prudential Bache. And I think they are both reflecting the fact that individual investors have concerns. I tried to point out in my testimony individual investors or traders have always had concerns following sharp drops in markets and you will notice some specific statistics as to 1973–74 with them pulling out of the market.

So I'm not saying that individual investors may not have concerns, but I am saying those concerns may not be driven by the reality of what has occurred. Like anyone, like an institution, individual investors like a bull market. They make money in it and when there are fundamental problems—and I don't have to relate them to you, Senator, where there was an earlier recession, now inflation, higher interest rates, deficits, the whole smear—people have a tendency to worry about whether or not equities are the highest return vehicle available for them.

The business of those people—Mr. Schwab's business and Mr. Ball's business and a great many other people's business is down. That decline in volume, by the way, is not limited merely to individuals. That decline in volume also is true of institutional volume, although again if you look at a chart our volume in history went down but we're down that much.

So I think I find them responding to concerns, perceptions, which are real in people's minds, but the cure for which may be the wrong thing to do. What we have tried to avoid is giving someone a cure for a problem that's the wrong problem. If people feel index arbitrage is what's wrong with the market and that isn't true, we did not feel that the Working Group should come up with a palliative—that we should come up with a feel good solution. The Working Group tried to come up with real, honest, substantive thoughts and not responding merely to perceptions, even though those perceptions may be influencing the profit or loss of Schwab and Prudential Bache, as well as others.

Senator BOND. Chairman Greenspan, would you like to comment on that?

Mr. GREENSPAN. There's no question that there's increasing volatility in the system in the most recent period, and, adding basically to what the Under Secretary just said, I think we should understand where it's coming from and whether or not there are, in fact, potential legislative or even regulatory solutions which will significantly smooth that down.

As best I can judge, having looked at this now for a fairly extended period of time, as well as having been in the financial community now since really the end of World War II, what I am most impressed with is the very substantial amount of institutional investing as a result of our pension funds which have become so crucial and so instrumental in the accumulation of savings in this society. Those pension funds, in turn, have had an ever-increasing and complex problem of investing vast quantities of the Nation's savings. It is they who essentially created the index arbitrage systems. It is they who use all of the various portfolio insurance mechanisms and the old structure of endeavoring to employ the index futures as a substitute for buying portfolios of stocks right away. They have used these techniques because they are of value. However, the extraordinary increased professionalism that has occurred with respect to investing has also increased both the need for information and the interaction between market price changes and investor actions.

As I said in earlier testimony before this committee, if we look back at, say, the period 1907, before we had very substantial telecommunications, the process by which the individual reacted to the way markets performed, is unlike today. Investors today know instantly what's going on in the market, and if it scares them, they respond very quickly, and this means basically that the internal dynamics of the market will happen much more rapidly than it used to, which is another way of saying that we've got greater price volatility.

I submit, Senator, that as much as we dislike the volatility—and I personally do—I see no way to eliminate our pension funds, professional investing or telecommunications. I say instead what we have to do is to find a way of living with that because I think that is a permanent element in the structure of equity markets for the current and the future period.

Senator BOND. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Bond.

Senator Dixon.

Senator DIXON. Secretary Gould, since you were the Chairman of the Working Group, may I say that I think this is about our ninth hearing on this subject matter since last October 19. All of us here that served with Senator Brady and those that are here who did not, I think all have a great deal of respect for him and believe in the genuine intention of his report to address the problems in the marketplace.

I would argue that what has been done by the industry, working in cooperation with your Working Group, has pretty well responded to the Brady recommendations.

CIRCUIT BREAKERS

I'd like to just quickly go through that with you. First of all, on circuit breakers, the Brady recommendation was that there be circuit breakers across markets. Isn't it a fact now that the industry, in cooperation with your Working Group, have adopted standards for circuit breakers and adequately responds to the problem?

Mr. GOULD. Well, they are I think it would be accurate to say, Senator, in the process of responding to our recommendation and it is also my understanding that the SEC with the Stock Exchange and the CFTC with the futures market have discussed these and that there is fairly general agreement, although they have actually not yet put them in place.

Senator DIXON. But is it your view that that will be solved in an accommodation between the industry and the Working Group?

Mr. GOULD. Yes, sir; that's my judgment.

Senator DIXON. With respect to the clearing and settlement question, the Brady recommendation was that clearing systems should be unified to reduce financial risk. Isn't it a fact that there have been discussions in the industry and discussions with your Working Group to accommodate that recommendation?

Mr. GOULD. Yes. As you may know, we had a subcommittee of our Working Group with great cooperation from the New York Fed which has particular expertise in this field. I think we took as good a look at the clearing payment system as has been done. We were impressed by steps already being taken. We have suggested others. We indeed may end up as a Working Group agreeing with Chairman Ruder that some additional legislation would be appropriate here, and we intend to continue as a Working Group to monitor——

Senator DIXON. If I may interrupt, you continue to be in existence and if that is your determination that there should be legislation, your Working Group would come back to this committee and its comparable committee in the House with recommendations. Is that correct?

Mr. GOULD. That is correct, sir. We intend to monitor the progress in this area very substantially.

Senator DIXON. Now intermarket regulation, I must say I think that Chairman Greenspan made a devastating argument against the Fed taking that kind of a position. I would have to suggest that it would be a distinct minority in the Congress that would support the concept as given to us by the Brady Commission on that.

But I'll ask you whether it isn't a fact that your Working Group is attempting to accommodate the consultation and coordination efforts with the industry in respect to intermarket regulation?

Mr. GOULD. That is correct and my personal view is that there has been—it has been a good forum and there has been a high degree of cooperation that flows from mutual concerns and the mutual desire to have this system work smoothly.

Senator DIXON. Of course, we know about the recommendations of the Brady Commission with respect to margins. There obviously is some difference of opinion on your panel. I think my friend, the distinguished Chairman of the SEC, takes a different view than the other three of you on the Working Group, but it is correct, is it not, to say that, first of all, the futures industry has increased margins voluntarily as an industry effort?

Mr. GOULD. Yes, sir; that's true.

Senator DIXON. Is it not also true to say that it is the general consensus of a majority view on the Working Group that there is in fact a prudential and harmonious relationship between the margin requirements in the two different markets?

Mr. GOULD. That, Senator, is a very important point and I think it's gotten lost here, hopefully only for the moment. The Brady Report by harmonious does not mean equal.

Senator DIXON. That is correct, and everybody agrees with that, I think.

Mr. GOULD. We had a very, very fine piece of work—series of regression analyses looking at history here, and have concluded that—and Chairman Ruder concurs in this—that margins on stocks should be significantly higher than margins on futures to provide the same level of prudential protection.

Senator DIXON. As a matter of fact, traders on the New York Stock Exchange, it's 25 percent—that's a working understanding there and it's 15 percent in the futures market now and it's a feeling of a majority of you that that is a harmonious and prudential relationship, isn't that true?

Mr. GOULD. That is true and the only difference was whether high levels of margins other than when necessary for prudential purposes was an effective way to dampen down volatility or indeed to diminish leverage, and the feeling was that Chairman Ruder felt that was a worthwhile try and the rest of us felt that would not be an effective means.

Senator DIXON. Mr. Chairman, my time is up but I have one more question that would conclude my questions. Would the Chairman indulge me for one more question?

The CHAIRMAN. Yes.

Senator DIXON. Now, Mr. Chairman, the final recommendation in the Brady recommendation is information systems, monitor transactions and conditions and related markets, and the fact is, is it not, that this whole idea of information systems within the marketplace has received substantial attention by the industry itself and by your Working Group and that there will in time be in place a strong information system to address that problem that was recommended by the Brady Commission?

Mr. GOULD. Yes, sir. And further, at our next meeting of the Working Group, which is next week, we intend to review with Chairman Ruder some of his legislative suggestions which may include certain large trader or other information on which there may be agreement on that with the SEC.

Senator DIXON. So there were five recommendations by the Brady Commission and the industry itself and the Working Group that's here before us today has addressed every one of those problems, given us a solution to every one of those problems, and in fact the Brady Commission's recommendations are now in place in the marketplace. Is that not true?

Mr. GOULD. Yes, sir. I do have a side-by-side comparison at the end of my testimony just for that purpose showing how we addressed the Brady issues.

Senator DIXON. Thank you.

The CHAIRMAN. Senator Gramm.

ZERO MARGIN REQUIREMENT

Senator GRAMM. Mr. Chairman, I want to focus my time on really one question. As you all well know, Congress operates on a

zero margin requirement. When we commit to buy something, we put nothing in the way of earnest money up, and so it's a confusing issue to us. And so I want to ask the three members who disagree on this margin issue to give me a response to Chairman Ruder's statements, where he says margins on futures and options should be increased in order to increase investor confidence, decrease derivative market speculative activity, and reduce the illusion that the derivative markets provide sufficient liquidity.

Could I start with you, Chairman Gramm, and if you could very simply define for me what this earnest money or margin requirement does in the futures market as compared to the stock market and why you disagree with this statement. Then I'd like to get Chairman Greenspan and Secretary Gould to do the same.

Dr. GRAMM. In the futures market, margin is a good faith deposit. It's a performance bond for the performance of the contract which will be implemented or come due in the future. Therefore, if someone who purchases or sells a futures contract defaults on that contract, the exchange will lose money because the exchange becomes in the futures market a buyer to every seller and a seller to every buyer. Therefore, it's in the interest of the exchange to set the appropriate level of margin for that protection purpose of a performance bond.

In the securities market, margin is a downpayment ultimately on a loan that involves a transfer of an asset. So at the end of 5 days, an individual who purchases a stock pays the downpayment and gets the asset. The rest is a loan.

There are also differences in the futures and the stock market margins; that is, when the performance bond in the futures market is paid, it's paid on the first day and if the market moves against you you must pay every day. In the securities market, that initial margin is paid only after 5 days after the initial purchase.

The result is that there is inherent in that system a greater risk in the stock market of someone maybe potentially walking away from an agreement if the market goes against them. In our analysis we looked at the harmony between the margins and, very frankly, the preponderance of the empirical evidence over a number of years on this role of margins for safety purposes, for the good faith deposit purposes, suggests that indeed the futures margining system has performed well. There have been no customer funds lost due to default of a futures firm due to margin problems and that is the reason why we would disagree with Chairman Ruder that changing the level of this good faith deposit could indeed affect price levels.

Senator GRAMM. Chairman Greenspan, could I get your response to why you don't favor raising margins in the futures market?

Mr. GREENSPAN. I think we've all agreed to the setting of margins at a minimum for prudential levels. We have disagreed on the question of whether going beyond that serves a useful purpose. The debate essentially gets to the issue of the desirability of reducing speculation. If we define speculation as the taking of risks, then it is very clear that if one increases margins and hence increases the transaction costs involved, that there will be less inclination to take risks, and the number of individuals in the markets who will be taking the other side, so to speak, of the investors' positions in

the futures markets would be reduced. We would have a widening of the spread between the bid and the asked for all contracts and I might add, Senator Heinz, that in the financial markets I think we use the word liquidity, unfortunately, to mean two separate things. The context here is that a widening of the bid and asked is what we mean by a reduction in liquidity.

I do think under those conditions that it will be more difficult for large investors to move in and out of the market, and where Chairman Ruder and I disagree is whether that is a good thing.

I think that we would agree that the effect is correct, but in my judgment that would be negative rather than positive in the sense that the managers of the huge amount of pension funds and other activities out there would be inhibited from taking the types of actions that they deem are required to maximize the portfolio performance of their pension funds. And while it may well be that reducing liquidity—that is, widening the spread between the bid and the asked—may make it difficult for some to get out and therefore may inhibit a number of people from doing so, my fear is that it will do very little to inhibit this activity; rather each individual pension fund will still believe that he can get out, but maybe his neighbor can't. I fear that they will all be rushing to the door at the same time, recognizing that the fire exit is small. I hate to think of what would happen to markets under those conditions. And it's in that context that I would differ from the formulation that Chairman Ruder is offering.

Mr. GOULD. I have very little to add to what Chairman Greenspan has said. I will make two points. One, if you look at the record again you will find that on the bad day in October that the so-called speculators were buyers, there's a definite definition of speculation for the purposes of Chicago which is someone who's not hedged, to generalize, and that they were taking risks against the tide. They served their very useful purpose and the sellers were major funds.

Take the next step then, if we're trying to disabuse major pools of capital that they can't all get out at once, I hope now they understand that without our taking further action, but if that is the intent, I am disturbed that the means of accomplishing that is to remove actual liquidity from the marketplace because that liquidity may be needed and raising margins removes liquidity.

The CHAIRMAN. Senator Graham.

Senator GRAHAM. Thank you, Mr. Chairman.

TIMEFRAME ON ECONOMIC DECISIONS

Mr. Chairman, I'm interested in a slightly different line of questions. I have been concerned about what I see as a fundamental issue in our national economics, and that is that the timeframe within which economic decisions are being evaluated seems to be getting shorter and shorter and that that shortening evaluation has resulted in a number of what I think are fundamental economic problems for our society.

In the testimony that we had with the panel that included the former Secretary of the Treasury, it was suggested that if a consequence of not attending to the problems that have been discussed

subsequent to October 19 is to discourage the small investor and shift the relative balance of who does own corporate America that an economic effect of that is going to be to contribute further to a shortening of this timeframe; that is that the institutional investor tends to be a more short-range investor than the individual investor.

I would be interested in your comment on the following questions which flow from that statement.

(A) Do you believe that the organization of the capital markets has contributed to a policy framework that has contributed to shortening the timeframe for evaluation of economic consequences; (B) Do you believe that the effect of your work will be to shift the balance of who owns American equity securities toward a higher concentration of institutional ownership; and (C) if that is the effect, do you believe it will contribute further to this shortening of the timeframe evaluation?

Mr. GOULD. Well, let me take the second first if I may. If you look at a history of the postwar period of individual ownership versus institutional, that trend has been in place for many years. Part of it has been the rise of the pension fund system and as a corollary of that the tax-free compounding that exists within a pension system. So you've had a tremendous growth and in my testimony I note that in 1980 public and private pension funds aggregated a $½ trillion. At the end of 1987 after October, they aggregate $2 trillion. So you had an acceleration there during the bull market but that is a long-term trend and there's a fair amount of literature on this where it's inheritance taxes and a bunch of other stuff on the one side and the rise of institutions on the other, although again we must be careful here. Part of those institutions are mutual funds, which aggregate individuals. So we have to look at that in a careful analysis.

Now whether or not the individual is more long term oriented than the institution, than the pension fund, I frankly, Senator, do not have the data to give you a well informed opinion. There's sort of conventional wisdom that someone tax-free has a lower transaction cost in a sense, at least when he has a profit, and he might be more short term oriented, but I don't have the facts to back that up. Perhaps there are some available I'm not familiar with.

There is also, however—it goes back a bit to the them in our report here that telecommunications, professional management, instant response and ability to adjust to news is a factor and obviously the professional institution has somewhat more ability to react quickly in that regard than individual ownership, not necessarily that a mutual fund, but to an individual owner of stocks, and you do recall that a week or so prior to October 19 a sharp increase in interest rates, a bad trade number on the Tuesday before, and weakness of the dollar and you saw institutions reacting very quickly to that confluence of economic events.

So I don't know the answer of whether the rise of the institution has increased short term orientation, but I do know that the rise of the institution has been long in place in the postwar period in this country.

Now how does our report affect that? I don't think our report affects that directly other than to point out that there has been a

long term change and that reversing that change is very difficult and what we call for is to try to have the market infrastructure such that it takes cognizance of institutional volume and concerted action and tries to accommodate it as best it can.

So that I think our report focuses on the issue you're raising. If you want to change that, you're going to have to induce behavioral change in a very fundamental sense. You are going to have to change the way institutional money is managed and I would point out, if I could take one more moment because I think it's important and it's been criticized. People have talked—sophisticated people have talked, although they shouldn't—about how they don't understand that the market is being treated as a commodity. If you are a major, major aggregator of capital, you shouldn't spend 30 seconds deciding whether you should buy General Motors or Ford because any sensitivity analysis will show you it will make no difference to the performance of your fund. What will make a difference to performance of the fund is whether you're 70 percent in stocks or 30 percent, and that at a given time, using dividend discount models or whatever quantitative means you wish makes a great deal of difference.

Therefore, you buy and sell the market because you are too big to have individual stocks to have an impact. There is one way certainly that the institution and the individual investor perhaps trade on different paths.

Senator GRAHAM. My time has expired, but if any other members of the panel would like to comment on that question I would be interested.

Mr. GREENSPAN. Senator, you raised a very interesting question which I'm doubtful any of us or anybody can really give you the answer to—namely, whether or not the timeframe over which an investment is made is different for individuals and institutions. The only evidence that we have is for the market as a whole, and there's only one price there. At the moment, an evaluation of the perspective real rate of return on equity suggests that the timeframe the forward horizon for discounting the future earnings, which is what that term really means, is about average.

It was excessively long in one respect last summer, and it's come down to a more average value at this particular stage. But one cannot separate between individuals and institutions. The fact that institutions tend to turn over their stocks perhaps more than individuals doesn't tell you whether or not they're investing for the short-run or the long-run. The key issue is what price they are willing to pay, and it is very difficult to disassociate the price that individuals would be willing to pay from those that institutions would be willing to pay.

So I don't think this is a question which can have a useful answer from the data or from the evidence, and therefore it is very difficult to answer your second question.

Mr. RUDER. I just wanted to make two comments. Neither one is going to be very helpful. One is that I do disagree slightly with Mr. Gould that institutional managers are not interested in individual stocks. There are techniques for managing large portfolios by breaking them up into numbers of portfolio managers and I really

would not want for my part to leave the impression that institutional managers are only engaged in macromanagement.

Second, I did want to point out as well that in terms of timeframes for making decisions, many of our institutional investors and particularly the pension funds that Mr. Greenspan has been talking about are tax-free, so that they do not need to have tax consequences in mind when making market decisions.

Mr. GOULD. Mr. Ruder, this by no means applies to all funds. If that's how I appeared to come across, that's wrong. I said there are more and more funds that treat it in the macro sense, but by no means all. You're correct.

The CHAIRMAN. Senator Chafee.

Senator CHAFEE. Mr. Chairman, I have a statement I'd just like to put in the record.

The CHAIRMAN. Without objection, so ordered. The statement will be printed in full in the record.

[The statement of Senator Chafee follows:]

SPEECH BY
SENATOR JOHN H. CHAFEE
TO
SENATE BANKING COMMITTEE
ON WHITE HOUSE BANKING GROUP--MARKET CRASH
(MAY 24, 1988)

MR. CHAIRMAN. I COMMEND YOU FOR CALLING THIS HEARING TODAY TO REVIEW THE INTERIM REPORT OF THE WHITE HOUSE WORKING GROUP. THIS HEARING CONTINUES THIS COMMITTEE'S OVERVIEW OF THE STOCK MARKET CRASH AND POSSIBLE WAYS TO AVOID ITS REOCCURRENCE.

IT IS ENCOURAGING TO NOTE THE GREAT STRIDES THAT HAVE ALREADY BEEN ACHIEVED WITHIN THE SEVEN MONTHS SINCE THE CRASH, BOTH EFFORTS TO UNDERSTAND THE FORCES THAT CAUSED IT AND WAYS TO RESPOND TO IT. MAJOR STUDIES OF THE CRASH HAVE GIVEN WAY TO MEASURED RESPONSES BY THE EXCHANGES, THE SEC AND THE CFTC TO THE STRUCTURAL PROBLEMS DISCOVERED. THESE FOCUSED ON THE RECOMMENDATIONS OF THE BRADY COMMISSION IN RECOGNITION OF EQUITIES AND EQUITY-DERIVATIVE PRODUCTS BEING PART OF A SINGLE MARKET. THESE RESPONSES INCLUDE STEPS SUCH AS IMPROVING STOCK EXCHANGE CAPACITY, INCREASING FUTURES MARGINS, ESTABLISHING TRADING HALTS, COORDINATING CLEARING AND SETTLEMENT SYSTEMS, AND QUICKENING INFORMATION FLOWS.

SIGNIFICANT PROGRESS HAS THUS BEEN ACHIEVED. THE INTERIM REPORT REVIEWS THIS EFFORT AND POINTS THE WAY TOWARD ISSUES THAT NEED FURTHER WORK. BECAUSE THE REGULATORS AND THE REGULATED HAVE

MOVED FORWARD CONSTRUCTIVELY, AND BECAUSE THERE IS NO GORDIAN KNOT SOLUTION, WE SHOULD BE CAREFUL BEFORE WE ON THIS COMMITTEE TOO HASTILY DICTATE THE SPECIFICS OF WHAT NEEDS TO BE DONE. EVEN THE INTERMARKET COORDINATION ACT OF 1988 ONLY POINTS OUT THE GOALS AND NOT THE STEPS TO REACH THEM. WE SHOULD THEREFORE CONTINUE TO PROD ALL THE PLAYERS AND SEE THAT THEIR EFFORTS DO NOT FALTER. THIS COOPERATIVE EFFORT IS THE WAY TO SEE THAT THE U.S. FINANCIAL MARKETS REMAIN THE ENVY OF THE WORLD.

FOR TOO MUCH INVESTED CAPITAL AND TOO MANY JOBS ARE AT STAKE NOT TO MAKE SURE THAT AN HONEST, LIQUID, DEEP, AND EFFICIENT CAPITAL MARKETPLACE IS PRESERVED, AND ONE THAT SERVES ALL INVESTORS.

The CHAIRMAN. I apologize, Senator Sanford. I meant to call on you earlier and didn't. I made a mistake.

Senator SANFORD. Don't worry about that.

Mr. Gould, I want to ask you a couple of things and I hope—I've known you a long time and I hope you won't think that this is either a personal reaction or directed personally, but your initial comments that the members of the committee didn't know what they were talking about is quite possibly right. They might very well be wrong, but it focused my thinking on your testimony because I had read it with some puzzlement and it seemed to me to have been written by an apologist, and it really seems to me that there's not a single fresh thought in it. So maybe we need to be a little bit uninformed.

In the discourse, you simply say that there's not much we can do about it, that we can't adjust behavior. It's sort of like saying to a ship in the ocean casting about and the salt is about right and the waves are about right and the sharks are to be expected and the hurricanes are to be expected and there's just not anything we can do about it. And that's the tone of the testimony as I've read it.

Now let me read you a sentence and ask you to comment on it because this came from a person who's been on Wall Street at least since the 1940's and maybe the 1950's but probably right after the war, Secretary Regan. He says:

> In my mind, we should start by banning index option arbitrage and then proceed with other reforms which will restore public confidence in the financial markets. The public has every reason to believe that the present game is rigged. It is. Many would be better off in a casino since there people expect to lose but have a good meal and a good time while they're doing it.

Now what do you say about that serious charge from a man that I suppose knows, unlike us, knows what he's talking about?

Mr. GOULD. Well, let me try to answer it this way, other than the fact that his publicity is something that under certain circumstances people seek and then often in seeking goes to extremes.

The Secretary came to the building in which I work in 1981, a significant date, because the futures market didn't start until 1982. The Secretary has had very little personal experience with the futures market and he's spent, as indeed I have, a majority of my time in Wall Street in a different environment, one that started before the institutions rose, and in his case, although I worked for an institutional firm, in his case he was the head of the largest public firm in the street, at least at that time. So I really think he is reflecting a view, Senator, from someone who has not had the opportunity recently to analyze the futures market, to analyze the people using the product, and is reflecting a time which was the majority of his career when the individual had a different role in Wall Street than is currently true.

Senator SANFORD. But if I may interrupt you, the thrust of his statement has very little to do with futures.

Mr. GOULD. Well, index arbitrage only exists because of the futures market.

Senator SANFORD. Well, that's clearly one example.

Mr. GOULD. Well, I think it's pejorative, Senator, for him to say that the market is rigged without then going on to try to explain to

us all in what sense it is rigged and how that rigging is accomplished, because I do not feel that way.

Senator SANFORD. Do you think that the chairman's bill ought to be passed?

NEW VERSION OF THE BILL

Mr. GOULD. In the last form I saw, we all felt that it had some problems, particularly it had some problems in creating a majority vote that preempted commissioners and preempted governors. We have taken a look at that again and feel that the Working Group accomplishes much of what the chairman's thrust seems to be. I understand there would be a new version of the bill and obviously it would be unfair for me to comment on it without seeing it.

Senator SANFORD. Well, it seems to me that the Working Group is yet to come up with anything very constructive and I think that's probably what I had to say and what I take it Mr. Regan was saying.

Let me say now to Mr. Ruder, if I may, that I have just one question. I find myself in the pleasant position of saying thank you for your very creative testimony. On your part about legislation, which certainly suggests a good many things that would be helpful, has the SEC prepared any legislative language or proposals or do you plan to?

Mr. RUDER. Sir, we're going to deal with legislative language in our open meeting in 2 days. I'm putting 6½, as they say, pieces of legislation to the Commission for consideration and we will have that language either voted up or down or changed and ready to submit to the Congress I hope by the end of the week or early next week.

Senator SANFORD. Well, let me ask you another question. Do you feel stymied by the Working Group?

Mr. RUDER. No, sir, I do not. I want to make it clear that I support the Working Group. I think that we have accomplished a great deal and I should also make it clear that I feel myself to be chairman of an independent regulatory agency, not in any way constrained by my participation in this Working Group.

Senator SANFORD. Thank you.

Dr. GRAMM. May I add just a clarification?

The CHAIRMAN. Senator Heinz.

Senator HEINZ. Thank you, Mr. Chairman.

Just one point of history that I wonder if Chairman Gramm would make for us. The margins on stock index futures are now what?

Dr. GRAMM. They are roughly 13 to 15 percent.

Senator HEINZ. Now are there any margins that are below 13 or 15 percent currently for broker/dealers?

Dr. GRAMM. I think the New York Futures Exchange, which is actually part of the New York Stock Exchange, is below that level at this point.

Senator HEINZ. But on the MERC or at the Chicago Board of Trade——

Dr. GRAMM. That's right.

Senator HEINZ. Nothing is below 13 percent?

Dr. GRAMM. That is correct.

Senator HEINZ. Now what were they on October 15, say, a few days before?

Dr. GRAMM. Eight percent. We have the actual information for you for all the stock index futures that I'd be glad to submit for the record, but they were roughly I believe 8 percent at the time of the crash.

Senator HEINZ. Were there any that were below 8 percent, any margin requirements that were below 8 percent?

Dr. GRAMM. No, I don't believe so, but I will check on that.

Senator HEINZ. On occasion, the number 3 percent for certain kinds of transactions has been used here and in other places and I just wanted to try and nail that down, but nobody has any knowledge of a 3 or 5 percent margin requirement?

Dr. GRAMM. No—5 percent in the past has been used, and what we did after the October break, as you understand——

Senator HEINZ. I understand that there was an increase from roughly somewhere around 8 percent, as low as 5 percent, on up to the present range. All right.

I really want to take this opportunity to ask Alan Greenspan, who just in my view generally does an outstanding job on everything he touches, and I hope he continues to do it—one or two questions about something he said earlier, which is that—Alan, you made a statement that's hard to disagree with in one respect. You said that futures values basically are only as good as the values of the underlying security. It would be hard to argue with that statement, but it seems to me that that also is an incomplete statement in that the value of underlying securities can also be determined by the structure of the market or markets in which they or derivative products are traded.

Mr. GREENSPAN. Senator, first, let me thank you for your opening remarks and hopefully what I'm about to say won't obliterate that point of view.

DISPUTE ON STOCK PRICE VALUES

There's always been a great dispute as to what determines stock price values. In the long run, it is fundamentally the economic value of the institution, the company, which the share is a claim to, and the profitability and expected profitability of that institution.

There is, undoubtedly, however, some price effect which does occur as a consequence of how markets behave and how the structure of markets evolve. I, however, can't see anything in the mechanism of the relationship between the common stock and the option on that stock or the future which reflects either that stock or 500 such stocks——

Senator HEINZ. I understand what you're saying, but can I suggest a hypothesis to you and have you react to it, an explicit hypothesis, that will advance the discussion?

I would have said, by the way, that the value of an underlying security, while it may be over the long term bounded by estimates of aggregate earnings or book value less your perception of the incumbent or some other management ability to realize that book

value, that it is supply and demand that determines the price of a stock, not this concept of value as you have described it, and that supply——

Mr. GREENSPAN. Supply of stock you mean?

Senator HEINZ. The price of securities is determined by supply and demand.

Mr. GREENSPAN. Of the stock?

Senator HEINZ. Of the stock, yes, and that those are not entirely subjective concepts and one of the things that affects demand quite clearly—and on this I think even George Gould would admit there are plenty of studies—is the perception of the ability to subsequently resell a security that you're considering the purchase of. I mean, that's why Legend's stock sells at a steep discount, because it's hard to sell.

Mr. GREENSPAN. If you're saying liquidity increases the price of the stock, I would agree with that, Senator.

Senator HEINZ. That would be a corollary. That wasn't specifically what I was saying. What I'm really suggesting is that the perception of the structure of a market, quite apart from this other abstract notion of the value of a security—and indeed the structure of the market itself—has a major impact on the price of a security and, therefore, in aggregate, of the market. Therefore, when the structure of the market includes such things as program trading and all its manifestations or stock index futures as a subset or portfolio insurance or proprietary trading for the account of a large firm, all of those have very real impact on the value of securities.

Do you agree or disagree?

Mr. GREENSPAN. You say they have some effect on price. It would be difficult to say no. To say they would have a significant effect on price, I must say, Senator, I would doubt that.

Senator HEINZ. Well, let me put it to you this way. If someone ever offers you what's called Legend stock that says you have to hold this for 1 year or 2 years before you can sell it, don't ever pay the market price for it.

Mr. GREENSPAN. It's not worth the market price.

Senator HEINZ. That's right. It's worth 20 percent less, 30 percent less, 40 percent less, and my only point is that if small investors believe that other people can get out of the market faster than they can because they have access to computers, because they are big institutional investors who can execute more people ready to get out of a stock by whatever means faster than they can, that perception, which is probably well-founded, has a profound impact on whether or not people will participate in the market.

So the structure of the market and the mechanisms of the market and the elements of speculation and volatility all I think can be demonstrated have a real impact on the underlying price of all the securities in the market.

Mr. GREENSPAN. Senator, I don't want to get into a long evaluaton of that thesis, which is a very complex one. You're really raising the much more fundamental question of what determines stock prices and I think there's been very significant disputes—in fact, implicitly in this group—about the extent to which liquidity and other structured elements weigh on the mechanism and hence on the price.

I would just say that my impression is that, over the long run, the structure of the market has almost no effect on the value of common stock claims to the industrial companies or other institutions. In the short run, I think it does, and it's the type of problem which I think we try to evaluate as best we can, but I doubt very much whether one can make the case that there's a legislative solution which in fact would always neutralize the effect of the market structure on the price system. I must say I doubt that very much.

Senator HEINZ. And if I may—well, I won't.

The CHAIRMAN. Senator Riegle.

Senator RIEGLE. We've had a lot of witnesses come before us. This the eighth hearing I think we've held—so there have been seven other days of expert testimony by people who have come in and have expressed in varying degrees and ways great concern about where we are, some of them cited here today.

DAMAGE OF THE EQUITY CAPITAL FORMATION PROCESS

As I listened to everybody that's come in to testify and read everything I get my hands on, there are a lot of things that concern me but there's one I want to raise now and that's the question of what's happened to the equity capital formation process.

My sense is that that's been damaged and that there's objective data to show that it's been damaged, that it's much tougher to bring a new equity offering to market; it's much tougher to bring a secondary issue to market. The people in the retail stock business, whatever their vantage point or philosophy, are saying that the small investor has been driven away and is less inclined to want to put their savings into an equity form.

So my question to you, Chairman Greenspan, I preface it by saying I am very much concerned about the capital formation process. It looks to me as if it has been damaged and that it's damaged today and that that really casts a shadow over our future unless we can turn it around. I don't sense that you necessarily share that view or that you're concerned about that and I don't know that you are or aren't, but are you concerned about it and how do you see it?

Mr. GREENSPAN. Well, Senator, I certainly think that the events of October 19 and 20 shook up a lot of people and to the extent that they were the individuals who planned long term capital investment for American corporations it could have had that impact.

The facts of the matter, as best we understand them at this stage, are that it has not. We do have surveys of capital investment. We do have data on orders coming in, on orders placed for new equipment, and somewhat to my surprise, they are behaving a good deal better than we would have expected in the context of, say, the last week or two of October.

Senator RIEGLE. Are you talking about companies investing capital?

Mr. GREENSPAN. Yes.

Senator RIEGLE. That's not what I'm raising. I'm talking about people who are willing to take an equity share in businesses. I'm talking about the new issue market and the secondary issue

market and the fact that they have been substantially beaten down and I haven't heard anybody really talk about that today and I can't understand it.

Mr. GREENSPAN. Let me address that then. The new equity issues were running something over $5 billion a month throughout the first three quarters of 1987, which was very significantly above the levels earlier in the decade.

As a consequence of the crash, that fell by two-thirds in the fourth quarter. In fact, the estimates here are for the third quarter of 1987 $5.1 billion in net stock sold monthly; in the fourth quarter of last year the figure had fallen to $1.5 billion a month. It has come back since. The first quarter it was at $3.8 billion monthly rate and the last figure for the month of May was $3.5 billion. It is not back to where it was earlier last year, but I would say it is somewhat above the average of the 1980's. So I would not consider it a situation in which, from that statistical point of view, the whole system has fallen down.

Senator RIEGLE. Well, certainly $3.8 is up from $1.5 in quarter to quarter, but it's certainly not back to the average that we saw coming through 1987, and the problem is that we need I think a higher savings rate. We've got an anemic savings rate. We need much more capital formation. It's just been hit hard. It's below where it was. I think it needs to be even above where it was before.

So there are several things I want to touch on here but I think we've got a real problem in that area and I don't see the Working Group focusing enough on that issue, quite frankly, and I think more needs to be done on that.

Chairman Ruder, let me ask you, you seem to be in a sense the dissenter on the group and you seem troubled. You seem worried about something and that sort of makes you the person who has in various ways politely dissented here and there. What are you worried about?

Mr. RUDER. Well, what I'm primarily worried about is a repeat of October 19 and 20. I think that is the specter that hangs over the system and my efforts have been to try to find ways to prevent that recurrence.

I'm not nearly as concerned as some of you seem to be with either the existence of intraday volatility of a more minor nature nor with the fact that as a temporary result of the October events we have had some decrease in initial public offerings and some waning of investor confidence.

I share I suspect, but not to as great a degree as some of the others, the thought that there will be a return of investors to the market and that the market will strengthen, but what I'm troubled about is the fact that we have been charged with a responsibility to try to prevent another October 19 and 20 and I'm not sure at this point that we have found that solution.

Senator RIEGLE. Let me say one other thing. We're very compressed for time and we've got two colleagues who have not yet asked their questions, but let me say to you, Mr. Gould, I thought that your response to Senator Bond earlier and then to Senator Sanford was a little bit less than straight on when you talked about George Ball and Charles Schwab in terms of their testimony last week, and in the first instance you omitted Don Regan and

then when Don Regan was mentioned by Senator Sanford you addressed it.

Let me just say something about Don Regan. I know Don Regan bashing is sort of fashionable in this town these days and especially if somebody works for the administration. I don't accuse you of that. I'm saying it's fashionable.

He was the President's chief economic adviser for 4 straight years. He led economic policy discussion in the administration. The notion that he wouldn't know what's going on in the financial markets or pay attention as a guy who had spent his life in it, I think just doesn't make sense. But beyond that, for the 2½ years that followed that, he was the Chief of Staff at the White House, a man with really an extraordinary background in capital markets and in Wall Street and in understanding the mechanics of the market. I think he became CEO of Merrill Lynch when he was 43 and was there for about 30-odd years or so. So by any standard, whether it's measuring him against the witnesses we've had or other people in the business, he certainly would stand out as a bona fide professional in the field.

Now when we have three people like that come in and express the concerns they do, I mean you can dismiss them, but they aren't the only ones that have said that. We've gotten that from a whole stream of people and it seems to me that what we're getting back from yourself on behalf of the group here is that really all this is exaggerated concern and there's really not much to worry about and if there was it's essentially been taken care of and I don't understand how we can put aside the views of a Don Regan, given his background, when he comes in with testimony that is as sharply expressed as that and in effect you say he doesn't know what he's talking about. That's what I understood you to say.

Mr. GOULD. May I respond to that, Senator?

Senator RIEGLE. Yes.

Mr. GOULD. Let me try to be very specific. What I said about Don Regan is I don't think in a professional career that he's had any experience in the futures market because when he came to Washington the stock index futures market hadn't been invented and I think it is very important here in reaching balanced judgments to have spent time to focus on the evolution of what is to all of us who started early in Wall Street—and I was the chairman of a firm there when he was—and we didn't know anything about futures—and the options market. You start with a frame of reference which is your experience with which you feel comfortable and then when the world moves on you really have to have the time and effort and experience—so I didn't say he didn't understand financial markets. I said I don't think that he was as familiar with the futures market as he would have been if he was still back in Wall Street.

But let me move to your other point about dismissing a group of witnesses. I'm not dismissing a group of witnesses. I am pointing out, however, which I consider to be an important fact that you all should consider, we have lots of competition out there and that defines a lot of self interest. If you run a retail firm, you feel very different in Wall Street. You feel differently about what's happened and what is going on than if you are a trader in Chicago.

And in a real way, Chicago and the cash markets in New York are in competition and you have the evolution of an efficient, low-cost system with price discovery taking place competing with a long traditional cash market where price discovery has been taking place. And people's reactions, as humans and as business people, are influenced by where they sit in that spectrum of competition and where they sit in that spectrum of shifting businesses.

I was reading the London Economist yesterday and I noticed one interesting statistic: between 1980 and 1987, commissions as a percent of brokerage firm income have declined from 46 percent to 36 percent. Just another example of a shift in business, a shift in competitiveness, meanwhile discount brokers have tripled in their share of market.

So I'm not dismissing people. I think you ought to listen to them. But I think when you judge their comments, I think you should have some frame of reference which says inevitably some of their views are influenced by where they fit in the total spectrum of what's going on in the financial markets.

Senator RIEGLE. Mr. Chairman, just one other comment as a footnote to the exchange with Chairman Greenspan, and that is that when you look at the new equity offerings and the fact that they've come back from the hammered down lows right after the market crash of October, the cost of equity capital has gone up substantially. If you're coming to seek new equity capital or you're doing a secondary, the fact of the matter is it's not easy to get and the price is a lot higher and not that we're here to discuss that, but there's been damage done to the equity capital formation process for a country which is still running a trade deficit that's above $150 billion on an annual basis and has other problems, and I think as a group you have a responsibility to zero in on that question of what has happened to a country with an anemic savings rate that has got to do more capital formation and has found that process set backward. Frankly, I don't think we've addressed that issue yet.

The CHAIRMAN. Senator Shelby.

Senator SHELBY. Thank you, Mr. Chairman.

WORKING-GROUP MEETINGS

In the opening letter by the Working Group to the President, I'm interested in the agreement on contingency planning of which you spoke. I understood that the purpose of continuing the Working Group meetings was to facilitate coordination and consultation in the event of future market disturbances.

I'm not sure what this means. Will the Working Group continue to meet regularly or will the members merely consider themselves members of an ad hoc group that convenes when a crisis comes, as Chairman Ruder has indicated might happen?

Mr. GREENSPAN. I think our notion is to meet periodically and address a number of these issues on an ongoing basis, but my suspicion is that it's far more valuable to have this group together so that should a crisis occur we could meet rapidly and, with the background that we would bring to bear on that crisis be able to address it far more facilely than we would if we were an ad hoc

group brought together with no previous history of working together.

Senator SHELBY. Chairman Ruder.

Mr. RUDER. I think I share Chairman Greenspan's approach toward this. I must say that the ability to have a personal contact with the other three in this area and then staff members has given me greater confidence in our ability to react quickly in a time of crisis.

Senator SHELBY. Dr. Gramm.

Dr. GRAMM. I would agree. I would just like to make one correction of a factual issue when Secretary Gould was mentioning about the futures market not existing in 1982. He meant stock futures.

Mr. GOULD. Stock futures, yes.

Dr. GRAMM. The futures market indeed has existed since the 1860's in this country.

But I would point out on the Working Group, I do think that it is a process by which we can meet in emergency or nonemergency times. I also point out that the way government works there are a number of cross-cutting issues that cut across agencies. A new bill like an immigration bill may cut across agencies and an appropriate way of dealing with that is to have coordination and cooperation among those people involved. I support the notion of us continuing to be involved there.

Senator SHELBY. Mr. Gould.

Mr. GOULD. I have no change of view from the others except to try to point out as the one person in the group who is not a regulator that there is a high degree of interest among these other three parties in trying to do the right thing and trying to protect the public and the integrity of markets, that in my view has well cut across any so-called turf concerns. So I think it should function in both the ways you suggested.

Senator SHELBY. I would speculate that if the four of you—you representing Treasury and the Federal Reserve and the SEC and the Commodity Futures Trading Commission—cannot handle a crisis between you, it's not going to be handled if a real crisis does come up.

LEGISLATE INVESTOR CONFIDENCE QUESTIONABLE

Moving over to another area, there are a lot of us here even on the Banking Committee that we don't believe that you can necessarily legislate investor confidence. Perhaps whatever we did here, no matter what kind of legislation we passed—and I hope we don't pass any—I don't believe that any legislation is going to bring the small investor or even the institution investor from the sidelines back into the marketplace. Does anybody share that view? Dr. Gramm.

Dr. GRAMM. As I stated before, I think that the low trading volume doesn't mean that all investors are permanently out of the markets, but there was a tendency to go to the sidelines and there was a lot of uncertainty in October with respect to an investor's ability to get to his brokers. However, a lot of those issues are being taken care of at this point in time.

Senator SHELBY. Don't the market forces or events outside of legislation dictate whether people are going to invest or not?

Dr. GRAMM. It can have an impact, but I would suggest it's very difficult to try to legislate supply and demand.

Senator SHELBY. Mr. Gould.

Mr. GOULD. Well, I tried to point out in my testimony earlier, Senator, that it is characteristic of the postwar period and I can't speak for earlier that when there have been bear markets of which there have been a number the individual investor tends to desert the market for a while. He finds the savings bank or maybe Treasuries or something else a better investment for him during that time. So this has happened before. I don't think you can prevent that totally in any structural way. I frankly feel that one had to focus on the fundamentals here too, and clearly if one reads the newspapers every day an individual investor has fears of inflation and all the other considerations I don't have to outline to you. I think you find reasons why people might not be as active, particularly in the aftermath of a sharp decline. I think there's been evidence of it before. I think certainly some of that is now happening.

Senator SHELBY. Mr. Greenspan.

Mr. GREENSPAN. I have nothing to add, Senator.

Senator SHELBY. My time has expired.

The CHAIRMAN. Senator Wirth.

Senator WIRTH. Thank you, Mr. Chairman, and thank you all for being here.

I'd like to if I might run through very quickly a variety of proposals that have been laid out for us and ask your reaction as to whether you agree or disagree. The first one goes to the consolidation of regulatory authority.

It's my understanding that Mr. Ruder of the SEC has recommended that and the other three of you don't agree with that. Is that correct?

Mr. RUDER. I don't think there's been a vote at the working committee level yet——

Senator WIRTH. But you recommended that?

Mr. RUDER. Yes, I have.

Senator WIRTH. And you don't agree with that, Mr. Gould?

Mr. GOULD. Well, I'll try again to be specific. We feel that the CFTC should have authority over margins in the futures markets, but we do not agree that you need the Fed above that in one instance, and in the second instance to which I think you're referring is we do not believe that the SEC should have jurisdiction over stock derivative instruments. We feel that the CFTC is quite capable of doing that.

Mr. RUDER. Mr. Wirth, I would point out that that issue has not been discussed at the Working Group at all and Mr. Gould is inventing that answer. It's not been considered. That must be the Treasury's position.

Mr. GOULD. No, sir. I was referring to your outlining to us the legislation to that effect.

Mr. RUDER. Yes, but we have not discussed that in our Working Group.

Senator WIRTH. So I gather there's a pretty sharp disagreement between you, Mr. Gould, and you, Mr. Ruder, on the subject of con-

solidation of regulatory authority, particularly as it relates to stocks and stock index futures.

Mr. GOULD. Perhaps the problem is what's meant by consolidation.

Senator WIRTH. It always interests me, Mr. Gould, your saying at the opening of your statement that you didn't think the legislation was something that we ought to pursue. It takes too long. I remember, Mr. Chairman, the former Secretary of the Treasury that we've been discussing this morning when we were attempting, as you will remember, in the early 1980's to consolidate more of the responsibilities of various regulatory groups, the Secretary of the Treasury at that point came in and told us that we shouldn't do that that there would be excess regulation and set up the Bush Commission to undercut that. He was saying only a few weeks ago that—a few days ago—that we ought to aggressively regulate. So I hear you, Mr. Gould, but I have difficulty understanding the consistencies sometimes, but you say don't legislate but the two of you are in real disagreement.

Mr. GOULD. Well, we do need legislation to follow through on the CFTC having margin power over the futures exchange.

Senator WIRTH. Where are you on the consolidation of regulatory authority, Mr. Greenspan?

Mr. GREENSPAN. Well, as Mr. Gould has pointed out, we have a certain degree of agreement and a certain degree of disagreement. We haven't completed the discussion on that whole thing as yet.

FED OVERSIGHT OF MARGIN REQUIREMENTS

Senator WIRTH. OK. Let me ask you about the Federal Reserve oversight of the margin requirements. What's your reaction to that, Mr. Ruder? What does the SEC believe about that?

Mr. RUDER. My view is that the Fed should have that authority.

Senator WIRTH. And what's your position on that, Mr. Gould?

Mr. GOULD. That it's an unnecessary additional authority.

Senator WIRTH. And Mr. Greenspan?

Mr. GREENSPAN. I think it's unnecessary. I don't think we feel very strongly about it, but we don't think that you need another regulator.

Senator WIRTH. And Mrs. Gramm, you're opposed to it; is that right?

Dr. GRAMM. We believe the authority we already have over margins is sufficient.

Senator WIRTH. How about moving aggressively on greater integration of clearance and settlement? Mr. Ruder, what's the SEC's position? Is there legislation necessary in that area?

Mr. RUDER. We are going to be considering legislation in 2 days in an open meeting. All six pieces of the package that are in my testimony will be considered by the full Commission at an open meeting.

Senator WIRTH. And what's your position on that, Mr. Gould?

Mr. GOULD. This is a worthwhile objective and will require legislation in all probability to effect it.

Senator WIRTH. And Mr. Greenspan?

Mr. GREENSPAN. I think it's something we will be reviewing in the Working Group after the Commission has discussed it.

Senator WIRTH. And Dr. Gramm?

Dr. GRAMM. There are a number of legislative proposals inherent in the Working Group package. With respect to the SEC's legislative proposal—I haven't seen the exact language.

Senator WIRTH. When will we get that from the Working Group? When will we get back your recommendations? I was noticing in your testimony, Mr. Gould, you are despairing of how long it takes for Congress to act on legislation. When are we going to hear from the Working Group on what legislation you think is necessary? It's been 8 months ago when this all happened.

Mr. GOULD. Well, for the Working Group we have an interim report which we've completed. At the next meeting one of two items on the agenda is to review the legislation proposed by the SEC.

Senator WIRTH. When are we going to hear from you all on that front? When are we going to get a recommendation from the Working Group on this?

Mr. GOULD. After that meeting. I don't know when that will be.

Dr. GRAMM. Well, there is some legislative——

Mr. GOULD. After the 31st, Mr. Wirth.

Senator WIRTH. Let me ask a fourth question. The recommendations have been made that each one of the exchanges should have a majority of outside directors. Do you have any position on that, Mr. Ruder?

Mr. RUDER. They do in our organizational structure have a majority of outside directors. I can't tell you for sure whether they are statutorially imposed.

Senator WIRTH. Is that a good idea, Mr. Gould?

Mr. RUDER. It's not statutory, but in my view it is a beneficial measure.

Senator WIRTH. Mr. Gould.

Mr. GOULD. It's not an issue that I would have a good judgment for you. I haven't thought about it.

Senator WIRTH. Dr. Gramm.

Dr. GRAMM. I understand in our exchanges we have public directors.

Senator WIRTH. I'm saying a majority of outside directors.

Dr. GRAMM. Not a majority. I would have to look at that more carefully. I think the notion is that you would want to have on the board of directors those with some expertise.

Senator WIRTH. Let me ask you a final question if I might, Mr. Ruder. It's my understanding that the New York Stock Exchange and the American Stock Exchange have capital adequacy requirements, is that right, that are imposed by those exchanges, or are they imposed by the SEC?

Mr. RUDER. We have net capital requirements, but the exchanges impose net capital requirements on the specialists in the exchanges.

Senator WIRTH. Is that the sort of thing that should be imposed on, say, capital on people operating on the floor of the MERC or the Chicago Board of Trade?

Mr. RUDER. I think that one needs to examine the level of capital on those floors, but I don't have at the present time a view as to whether they are adequate.

Senator WIRTH. Mr. Gould.

Mr. GOULD. Only apparently that we survived a very tough period with it, as far as capital adequacy.

Senator WIRTH. So you're saying that because we survived that, that there's not need to do that?

Mr. GOULD. No, sir. You asked me whether I had an opinion. I don't have an opinion other than to say at least it was not clearly inadequate.

Senator WIRTH. Dr. Gramm.

Dr. GRAMM. There are capital adequacy requirements in the futures markets and we oversee that as well.

Senator WIRTH. Are those similar to what the SEC has or what exists for the New York Exchange?

Dr. GRAMM. They are very similar.

Senator WIRTH. As a final point, there's been a lot of discussion on whether circuit breakers are a good idea and former Commissioner of the SEC Roberta Carmel last week wrote a pretty strong piece on why circuit breakers will backfire and I've heard a lot of people commenting in exactly the same way, people out of your former back yard on Wall Street suggesting that circuit breakers were a bad idea.

Are you all uniformly for circuit breakers? No problem with that?

Mr. GOULD. Well, yes, sir, I think we are uniformly for circuit breakers. I think we all realize that the level is arbitrary, that the ideal world would be a world of continuous markets, but that circuit breakers are the lesser of evils, and the other evil being that we noticed on the 19th and 20th the market structure breaking down and creating inadvertent circuit breakers.

So ideally we would like to think it's not necessary. As a practical matter, it may be.

Senator WIRTH. On circuit breakers, it seems to me that that's an idea that sounds good if you say it fast enough, but it seems to me that it comes with a lot more problems than it solves. Thank you, Mr. Chairman.

The CHAIRMAN. Senator Dodd.

Senator DODD. Thank you, Mr. Chairman. I apologize for not being here throughout the entirety of your response to the questions and if I ask you a couple of things here you've already addressed the chairman will interrupt me I hope.

First of all, let me commend you. I think you did an excellent job. There's a lot of volatility around this issue itself and to try to make some recommendations that are sober is important. I think you have issued a very good report.

Let me if I can just touch on two questions. I forget which of my colleagues raised the question about the importance of the individual investor. We know that they make up 60 percent of investors and yet represent only 25 percent of the actual trading activity, but my assumption would be that all of you would agree that the individual investor provides an absolutely essential ingredient to the market—to its liquidity if nothing else. I heard you, Chairman

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Greenspan, talk about the realities and I agree with you that institutional investors are here and will continue to grow. But I assume that none of you would disagree that it also is vitally important to maintain the involvement of the individual investor in the market.

With that in mind, the issue arises, as some have raised it, that people make decisions to purchase stocks based upon how individual companies perform, and therefore stock prices should reflect the knowledge and information we acquire as to whether or not the corporations are being managed well or poorly. What we see today, of course, is "baskets" of stocks being purchased and the institutional investor making a decision more about where the market is headed as a market, rather than how the individual companies are doing.

What do you suggest, if anything at all, that might be done to provide more encouragement to the individual investor, if in fact you agree with the supposition I've just suggested to you? We'll begin with you, Mr. Gould.

THE IMPORTANCE OF THE INDIVIDUAL INVESTOR

Mr. GOULD. I think the individual investor is still a very important factor. He's an important factor in the markets. I think it's also in a broader sense important that people feel they have a stake in this country.

I think the individual investor is often more sophisticated than he is given credit for in the sense of is this a good time to invest in equity risk or is this a good time to sit on the sidelines, and get over 9 percent on U.S. Treasury bonds? So I think there are times when the individual investor shows risk aversion because of uncertainty and even very, very sophisticated people today I think have trouble foreseeing what the course of events are over the next year. So I don't know how you change that for the individual investor in terms of fundamentals. What I do think you have to assure—it may not bring him back in the same way as long as there are disturbing fundamentals—is he's going to get a fair deal. He's going to have equal access to the DOT system. He's going to have equal access to his broker so that people aren't running ahead of him, that the system has capacity to accommodate him, and then the individual investor, along with the professional, are on their own as to their judgments about the future of market values. But what we can't allow to happen is the advent of concentration of capital driving the individual out of fair access to the system.

Senator DODD. I totally agree with that. I should have added the element of the accountability mechanisms as well. In the past, we always believed that good management and bad management was reflected in how well stocks do. Don't you lose some of that—the market providing accountability for companies—with the basket trading approach?

Mr. GOULD. Well, I think it—are you familiar, Senator, with the enormous increase in the last 10 or 15 years of so-called index funds or another word for them is passive management? Some of this goes back to a book which you may recall called "A Random Walk Through Wall Street," written by Mr. Malkiel which basically to me at least was the beginnings of very quantitative analysis

of some things that were old wives tales we took for granted and the dispelling of some of them. One of the things that has happened I think as a result of that beginning of looking at the market as a whole is, one, it's difficult for large bodies of capital to outperform the market. You can get so big that you almost are the market.

Second, looking at the record that has often been difficult, so you have in the practical world besides just the theoretical world. So I think you have had a large body of capital that says the important thing is the amount we have in equities versus other available asset investments. Inevitably, when you're big, that drives you to a market basket, an S&P 500 Index, an index fund based on that or one of the other indices.

There's a sort of acceptance in that that they can't do better by managing that money another way. So I think this becomes somewhat incompatible with a lot of what the individual investor holds to be the market, although you are seeing more and more products available of that nature to the individual.

Senator DODD. Does anybody else care to comment on that, Mr. Ruder or Chairman Greenspan?

Mr. RUDER. I have a general comment. I think the individual investor in the context of today's institutional trading and derivative markets needs to have some hope that those markets will not unduly interfere with the market for individual stocks. My view is what we need to be working on primarily is to increase the amount of available liquidity in the markets so that these derivative products and other institutional trading don't give us gyrations which are unacceptable. We have suggested, for instance, that the New York Stock Exchange have a market basket trading post. I've suggested that there should be efforts to provide additional available loan funds for brokers in times of distress. Once that kind of program is put into place, we may get better investor confidence that they will not have negative results from these other instruments.

Senator DODD. Dr. Gramm or Chairman Greenspan, anything to add?

Mr. GREENSPAN. I'd just like to say that from the point of view of the individual investor the American securities markets have been the fairest in the world, and I think it's incumbent upon us to make sure that it continues that way and that the average small investor or medium sized investor perceives that he or she is not acting against interests in the market which don't give them a fair deal.

Dr. GRAMM. I guess I would only add that I don't know that the evidence is completely there to suggest that today, especially with the changes that have been made, that the small investors are disadvantaged by the system or that indeed prices are affected by the existence of unfair practices of these institutions.

Senator DODD. Well, I think on that point you have a lot of small investors who are investing through the institutions.

Dr. GRAMM. Absolutely.

Senator DODD. The last point, and you touched on it, Chairman Greenspan, one of the directives was to examine the multimarket issues, the international questions, and yet I didn't see anything here in the report about that.

Do you have any recommendations to make about the fact that we are dealing in a global market today—I guess some activity has already been ongoing in this area, but I didn't see anything here that even addressed the point and I wondered why it was left out.

Dr. GRAMM. On the international issues?

Senator DODD. Yes.

Dr. GRAMM. We do have some statements in here about the fact that the Working Group believes that international coordination among the international regulators is important.

Senator DODD. That's why we asked it to be done, but what are the recommendations? I know it's important.

Dr. GRAMM. We have not addressed specific recommendations. I think in the first instance we are dealing with a large number of domestic intermarket issues that arose, keeping competitiveness in mind.

Senator DODD. I understood that, but again, do you have any suggestions at all in this area?

Mr. GREENSPAN. Let me say, Senator, as you know, the Federal Reserve was involved with the other major central banks in the creation of a risk-based capital system through the so-called Cook Committee of the Bank for International Settlements. Similar discussions are likely to emerge amongst the regulators to focus on the securities questions. It's in the early stages, but it's something I think of which we are all aware. I think Chairman Ruder is more involved in this than we are.

Mr. RUDER. Senator Dodd, we have a larger series of initiatives at the Securities and Exchange Commission in various areas, including international requirements for broker/dealer capital, settlement and clearance problems, attempts to harmonize disclosure requirements and accounting requirements around the world. We have initiatives for the exchange of information for enforcement purposes and an attempt to persuade other countries to enact antifraud measures similar to ours. We are also involved in the International Association of Securities Commissioners, which in turn is attempting to see whether the Cook Committee approach toward international securities regulations is appropriate. So there is a great deal going on in the international area.

We have not, however, discussed it in detail at the Working Group.

Senator DODD. Obviously you're not making recommendations for Congress to take steps, but I think you would find a very receptive Congress if you've got ideas about it.

The CHAIRMAN. Mr. Ruder, let me explain why this Senator is so frustrated. October 19 was the date of the crash. The White House promptly appointed the Brady Commission to make a report within 60 days. They did that. It was a very good report. The New York Stock Exchange got a report from the group chaired by Nicholas Katzenbach, a former Attorney General even before the Brady report. The SEC made a very thorough investigation. This committee held hearings. We've had 10 days of hearings on this issue.

I asked for a deadline of March 4 and asked you and Chairman Greenspan and Chairman Gramm to report to us by that day on legislative recommendations. The date was slipped because you weren't ready.

Then we finally got recommendations in March, but the recommendations didn't include any specific legislative recommendations because they said they wanted to wait until the White House, which had just asked them for another 60 days to report in May.

Now it's May, and you're giving us a report and we still don't have any real legislative recommendations. You say, well, we're going to come up eventually with this kind of thing. Meanwhile, you've got this fine group of people—and they are a fine group of people—expert people—who are working on this.

At the same time, you've got a task force that can do almost nothing. What value is there in a working group such as you are that can only act with unanimous consent? As I understand it, without action by the Congress, you couldn't give the authority to Dr. Gramm because she objected to it—she's the only one that did—the authority giving her the right to fix margin requirement.

Mr. RUDER. Our group is a coordinating and consulting group and does not have power to act. Each of us, on the other hand, within our own agencies—that is the three regulating agencies—does have power.

The CHAIRMAN. That's right, but as you said, you told us so well, you need somebody who can decide irreconcilable differences. Those were your words and I think you're 100 percent right and we can't fix responsibility.

Mr. RUDER. That's correct. I do not believe that a vote by the heads of the three agencies is the appropriate way to resolve these difficulties.

The CHAIRMAN. And even if it were, it would take legislation to give a majority of that authority.

Mr. RUDER. It would take legislation to do that and you will have legislation, sir, by the end of the week or early next week from the Securities and Exchange Commission without having Working Group analysis of it. I'm going to submit the legislation to you and ask the Working Group to look at it afterward. I attempted to get the Working Group to look at it before we finished our report, but the time constraints involved in the production of the report and consideration of other matters did not permit us to reach any conclusions.

The CHAIRMAN. I could understand this kind of a situation if there were no urgency, but we were told by Nicholas Brady—and these were his words—that we are staring down the barrel of a loaded gun, that unless we substantially strengthen our system for regulating securities trading, there's every reason to expect we will have another crash.

Mr. RUDER. Well, I think Mr. Brady gave us five separate recommendations and Mr. Gould's testimony shows that we have addressed the five areas that he suggested and, with the exception of his call for a super regulator, I think we are very far along in reaching the results he wants. And one other thing about Mr. Brady's report, he specifically indicated that he did not have the time and his committee did not have the time to make specific recommendations for fixing things. What he said is there's a problem; now do something.

We have been trying to find a way to come to some solutions here and, believe me, it is a very difficult task.

The CHAIRMAN. I know it is, but take the one most conspicuous area in which many of us, including most of the witnesses who have testified except for the regulators, have had very strong agreement. That is with respect to margin requirements. They said we should harmonize margin requirements and the SEC has proposed it, but we seem to be a long, long way away from getting that done. We have to pull this desperate [sic] committee together. Then when we do that we have to persuade the Senate, and when we do that, we have to go to the House leadership which seems to be very strongly in favor of this. The chairman of the subcommittee Markey over there is very, very much in favor of our acting.

But when we do that, we face a Presidential veto and it seems to me that pistol is going to go off.

Senator DODD. Mr. Chairman, after the 1929 crash, it was 4 years before we got a bill. I'm not suggesting we not move expeditiously.

The CHAIRMAN. And we had the worst depression in the history of this country.

Senator DODD. Well, I'm not suggesting that obviously, but the point is that we can act, but——

Senator WIRTH. Mr. Chairman, if you would yield a minute, I just wanted to associate myself with your legislation and I do, but I want to tell you I share your frustration completely with this and what's come out of this and I think Mr. Ruder, with all due respect for the good work that you have attempted to do down there, to suggest this morning that you have addressed everything except the super regulator in the Working Group, as you just said I think in response to the Chairman, it just simply leaves an awful lot to be desired.

Let me go through the six areas and just touch very briefly on those and Mr. Gould's testimony of what you've got. Continuing coordination—we're still at the lowest common denominator that we were at when the SEC–CFTC "accord" was put together in 1981. Nothing has been done on that.

Circuit breakers is an issue that you know as well as I do can be debated up one side and down the other, but there is disagreement on that.

Prudential margin requirements, I just heard an explosive discussion between the two of you in disagreement on that.

Credit clearing and settlement, you say is going to need legislation but we don't get legislation and you're not even having a meeting until May 31, and that's going to be a long time before we get legislation to do anything on that front.

Contingency planning which I understand means that if there's another problem the four of you will sit down and meet together. That's all terrific.

Finally, capital adequacy, when I asked questions about that, I had difficulty getting specific answers about what capital adequacy requirements existed.

So it seems to me that it's six for six, Mr. Chairman, in terms of the central features of the Working Group leave one significantly disappointed, just looking at those, one, two, three, four, five, six, and a pretty sad response from an administration that has said to us over and over and over again "don't do anything until you get

our recommendations." And what do we have? We're 0 for 6 so far as I can see.

WAITING FOR PACKAGE OF RECOMMENDATIONS

Let me ask you the question. It seems to me that we are waiting for you. When are we going to get the package of specific recommendations? Mr. Gould told me that you were going to have another meeting on May 31. The chairman says he wants to go ahead and mark up this piece of legislation. When are we going to get a legislative package from you all?

Mr. GOULD. Is that addressed to me, Senator?

Senator WIRTH. Aren't you the Chairman of the Working Group?

Mr. GOULD. Well, you've been talking to Chairman Ruder.

As I understand Chairman Ruder's plans, he intends to submit to his Commission for approval at an open meeting on May 26, 6½ I believe I heard Mr. Ruder say legislative proposals.

Senator WIRTH. When are we going to get a legislative package from the Working Group?

Mr. GOULD. These are proposals which the Chairman is quite correct, he outlined to the Working Group earlier but we did not have time to address them.

Senator WIRTH. So we're not going to get legislative recommendations from the Working Group?

Mr. GOULD. I haven't finished.

Senator WIRTH. When are we going to get recommendations from the Working Group?

Mr. GOULD. After the Commission makes whatever decisions they wish to on the 26th, it is my hope and expectation that Chairman Ruder will bring the results of that to the Working Group on the 31st for its consideration.

Senator WIRTH. Let me ask you, when are we going to get legislative recommendations from the Working Group, Mr. Gould? You told the chairman of this committee, as I remember, for months now that we shouldn't go ahead with legislation until we get the recommendations from the Working Group. Now it seems to me that it's fair for us at this point—this is more than 6 months ago—am I correct, Mr. Chairman, that we got November, December, January, February, March, April and now we're into May—7 months. Now it seems to me that you, having said you will wait for them, it's appropriate now for us to ask them when we're going to get their legislative recommendations. Isn't that a fair question?

The CHAIRMAN. Well, it's a fair question and I can tell you we're going to go ahead.

Senator WIRTH. What is the answer to that, Mr. Gould? You said wait for the Working Group recommendations. When are we going to get the Working Group's recommendations?

Mr. GOULD. Senator Wirth, you are making the assumption that a lot of legislative proposals are necessary in order to implement the Working Group's conclusions.

Senator WIRTH. When are we going to get the recommendations not to have any legislation? You can tell us that, too. That's perfectly all right. When are we going to get these recommendations?

Mr. GOULD. Inherent in this report is the 60-day interim report to the President with the recommendations of the Working Group I have tried to outline earlier in testimony, the premises from which those recommendations flow. I have also tried to indicate that the Working Group will continue and from time to time when it reaches conclusions it seems is significant enough to do so it will be happy to make them public by the President and to the Congress.

Senator WIRTH. When are we going to get legislative recommendations from the Working Group? The answer to that, having told the Chairman not to move ahead until we get these recommendations, we're not getting anything. It's a pretty sad response I must say from an administration whose responsibility is to try to coordinate our financial institutions and these mechanisms. Mr. Gould, you keep saying wait for our recommendations and then you won't give us one.

Mr. GOULD. We will reach decisions as to what, in our judgment—criticize it or not—in our judgment, are the correct responses to the events demonstrated by October 19 and 20 and other times, and to the extent that those recommendations require legislation, we will be happy to present such legislation. We are not legislation driven. We are decision driven based on what, in our judgment, is the proper response. When those decisions are made, we will pass the legislation through if it is necessary.

Senator WIRTH. So then the initial response from the administration to the chairman of this committee is it should wait until legislative recommendations came out of the Working Group was an incorrect response by the administration.

Mr. GOULD. Sir, I made no response to the chairman of this committee for whom I have the highest regard, which includes not only a substantive grasp of issues when I've worked with him but indeed his ability to move legislation. I have had no commentary whatsoever with Chairman Proxmire with respect to legislation.

The CHAIRMAN. I have one question for you. You've been very patient. It's 1 p.m. and you've been here for 3 hours and I thank you and I apologize for keeping you longer but I'm going to ask just one question of Chairman Greenspan and as far as I'm concerned, unless the other members have questions, we will adjourn.

Chairman Greenspan, I'd like to read you a statement on margin requirements and ask you if you agree or disagree.

The evidence does not rule out the possibility that on occasion the markets will manifest tendencies toward speculative excesses that might be limited through the imposition of margin requirements at levels above those likely to prevail simply on the basis of self-protective actions of creditors and other exposed private parties. If excesses can be so avoided, margin regulation would be of value in minimizing the broader potential instability that could afflict our highly interrelated financial system and the economy.

Mr. GREENSPAN. You read it too fast. It sounds like something I would have written at some point. May I respond to that question for the record?

The CHAIRMAN. Well, yes. Let me just say this, that the gist of this question is in the last sentence and I'll read it more slowly.

If excesses can be so avoided, margin regulations would be of value in minimizing the broader potential instability that could afflict our highly interrelated financial system and the economy.

In other words, it's saying that margin requirements should not be simply for a matter of safety but they should also be for affecting volatility and so on. The reason I read that to you is because this is what the Federal Reserve Board said in a staff report in 1984 and I think you'll agree that you have a first class staff.

Mr. GREENSPAN. Well, let me say this. The general thrust of that report was in fact that an examination of margins indicated that you could not essentially reduce volatility and improve the system. That particular phrase is something which is in a much broader context. All I can say to you is that we have examined in some detail the issue of margins over prudential limits. We've reviewed it subsequently with the presumption that they may in fact be usable, that they may in fact be desirable for purposes of reducing instability in the market.

Having concluded that, both in 1984 and subsequently, we have reached the conclusion that the evidence does not suggest that it works.

The CHAIRMAN. You've reached the conclusion that what?

Mr. GREENSPAN. That increasing margins over and above prudential levels does not in any measurable way reduce volatility. That is the conclusion of the staff in 1984. That is the conclusion of the staff in 1988.

The CHAIRMAN. Well, this statement says margin requirements would be of value in minimizing the broader potential instability that could afflict our highly interrelated financial system and the economy.

Mr. GREENSPAN. The reason I want to answer that statement for the record is that paragraph is in a much broader context which is in the 1984 report and my impression is that that is not a correct appraisal of the conclusion of the report.

[Chairman Greenspan subsequently submitted the following information:]

The 1984 Federal Reserve staff study, from which this statement was taken, provided a very thorough and balanced assessment of the appropriate role for Federal margin requirements. In sum, the study cast significant doubt on the need to retain high initial margins to prevent excessive fluctuation of stock prices. As I have stated in this and previous testimony, I agree with the view expressed by the Board of Governors at that time that, in light of the evidence, the primary purpose of margin regulation today should be to ensure the integrity of the marketplace.

It would be foolish to assert, however, that the markets always behave in ways that are easy to explain. Thus, the above statement recognizes that, while there is no convincing evidence that margins play a role in preventing excessive fluctuations in prices, we also cannot rule out the possibility of occasional speculative excesses. "If" higher margins could reduce the occurrrence of such excesses, then setting margins above levels needed for prudential purposes might be of value. But to reiterate, studies and other available evidence do not indicate that margins play an important role in reducing volatility. Moreover, the possibility that higher margins may be of some value must be weighed against the costs that would be imposed on the markets by such a policy course. In particular,

higher margins raise transactions costs with negative effects on market liquidity and efficiency.

The CHAIRMAN. Well, it said evidence does not rule this out.

Well, I want to thank you, Chairman Greenspan and Secretary Gould and Chairman Ruder and Chairman Gramm for your testimony.

The committee stands adjourned.

[Whereupon, at 1:05 p.m., the hearing was adjourned.]

[Responses to written questions and additional material supplied for the record follows:]

BOARD OF GOVERNORS
OF THE
FEDERAL RESERVE SYSTEM
WASHINGTON, D. C. 20551

June 30, 1988

ALAN GREENSPAN
CHAIRMAN

Chairman Greenspan's Responses to Written Questions from Senator Bond in Connection with the Hearing Held on May 24, 1988

1. I am interested in your reactions to the decision of several prominent securities firms to discontinue index arbitrage for their own accounts. Do you believe that this is a constructive step? Will this dampen market volatility?

Answer: I doubt that these actions will succeed in reducing market volatility and, more generally, I have concerns about steps that might weaken linkages between the stock market and markets for stock-index futures and options. As I discussed in more detail in my testimony, there have been fundamental changes in the equity product markets, encouraged by technological and communications advances and the growing role of institutions in the management of financial assets. Stock-index products have given financial managers what is often a more efficient means of adjusting portfolios as economic conditions change. It is not surprising, therefore, that when new information becomes available, futures prices respond before those in the cash market. Nonetheless, as emphasized in the Brady Commission report, there is only one valuation process for stocks and stock-index futures and options. It is in this regard that index-arbitrage performs an important function in financial markets, which is to ensure that prices of derivative instruments and prices of the underlying stocks are linked. When pressures in one market cause the prices of stocks and futures to deviate, index-arbitrage is the mechanism that will bring the prices between markets back into alignment.

Arbitrary actions to restrict trading strategies such as index-arbitrage tend to sever the connections between the markets and allow more price disparities among related instruments. If prices become very disparate, confusion and uncertainty are compounded--as evidenced by events last October--and can be destabilizing. Moreover, tight linkages among these markets are necessary to preserve the usefulness of futures and options as hedging devices for stock portfolios.

2. What is the basis for the Working Group's decision that the trading halt should last one hour after a 250 point drop in the Dow Jones Industrial Average and two hours after a 400 point drop? Some have argued to me that for the circuit breaker to function properly, the trading halts should be longer. What are your views on this issue?

Answer: In designing the trading halt procedures, the Working Group recognized that any disruptions are undesirable, but in the event of severe market disturbances, a predetermined trading halt that is triggered by a rule known in advance by all participants would be better than an ad hoc closing. Nonetheless, extended trading halts themselves may add to confusion, and the Group thinks it desirable to reopen the markets as quickly as possible, consistent with providing enough time for information dissemination and review of buy and sell decisions. The reopening procedures that we have recommended are patterned after those used on so-called Expiration Fridays, which have been in operation over the past year. It is believed that one hour would provide sufficient time to review order imbalances and to distribute relevant information. The procedures, however, make allowance for delayed reopenings of individual stocks--beyond one hour--if, for example, order imbalances change significantly. And, if the Dow dropped another 150 points, the markets would close again for a longer period.

Interim Report of The Working Group on Financial Markets

Submitted to
The President of the United States

May 1988

For sale by the Superintendent of Documents, U. S. Government Printing Office
Washington, D. C. 20402

The Working Group on Financial Markets

George D. Gould, Chairman
Under Secretary for Finance
Department of the Treasury

Wendy Gramm, Chairman
Commodity Futures Trading Commission

Alan Greenspan, Chairman
Board of Governors of the Federal
Reserve System

David S. Ruder, Chairman
Securities and Exchange Commission

May 16, 1988

The Honorable Ronald W. Reagan
The President of the United States
Washington, D.C.

Dear Mr. President:

We respectfully submit to you an Interim Report of the Presidential Working Group on Financial Markets, created pursuant to your Executive Order dated March 18, 1988.

For the past sixty days, we have reviewed and consulted together on the numerous recommendations made in the wake of last October's market decline. The Working Group has viewed its primary mission as focusing on specific actions that would substantially lessen systemic dangers to the U.S. financial system.

We are pleased to report that the Working Group has reached agreement and is making recommendations on a number of critical issues, including:

- agreement on coordinated circuit breakers to allow for a cooling-off period during times of high market volatility;
- conclusions and recommendations on the credit, clearing, and payments systems to ensure the necessary coordination within and between markets and to avoid systems gridlock;

- agreement that current minimum margin requirements provide an adequate level of protection to the financial system, although they do not cover all possible price movements, and that prudential margins appropriate for carrying an individual stock should be significantly higher than those for a stock index futures contract; and

- agreement on contingency planning, including the continuation of the Working Group, to facilitate coordination and consultation in the event of future market disturbances.

The collective actions recommended to you in our interim report are consistent with your mandate to us to enhance the integrity, efficiency, orderliness, and competitiveness of our Nation's financial markets and to maintain the confidence of investors, both large and small. In addition, our report recognizes and commends a number of significant actions taken by private market participants, self-regulatory organizations, and the regulatory agencies.

Sincerely,

George D. Gould, Chairman
Under Secretary for Finance
Department of the Treasury

Wendy Gramm, Chairman
Commodity Futures Trading
Commission

Alan Greenspan, Chairman
Board of Governors of the Federal
Reserve System

David S. Ruder, Chairman
Securities and Exchange
Commission

Interim Report
Of the
Working Group on Financial Markets

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INTERIM REPORT OF THE WORKING GROUP ON FINANCIAL MARKETS

I. INTRODUCTION AND SUMMARY

On March 18, 1988, the Working Group on Financial Markets was established by Executive Order to provide a coordinating framework for consideration, resolution, recommendation, and action on the complex issues raised by the market break in October of 1987. The Working Group was charged with developing effective mechanisms to enhance investor confidence, to protect the quality and fairness of markets for all participants, and to preserve the continued orderliness, integrity, competitiveness, and efficiency of our nation's financial markets. This is an interim report on our progress, actions, and recommendations.

From the beginning, the Working Group has had the benefit of a number of useful studies, notably the Report of the Presidential Task Force on Market Mechanisms (Brady Report) and separate studies by the Securities and Exchange Commission (SEC), Commodity Futures Trading Commission (CFTC), General Accounting Office (GAO), and others.

The Working Group reached early agreement on a number of important premises for our deliberations:

- The existence of large debt and equity portfolios held by institutions and the increased level of principal activities by investment firms have led to increased demand for portfolio hedging strategies and market liquidity.

- It is unrealistic (and perhaps counterproductive) to try to undo the changes in financial markets or market strategies brought about by improvements in telecommunications and computer technology.

- The role of fundamental economic forces should be emphasized when evaluating the October decline. Stock prices prior to the collapse had reached levels that seemed to be in excess of those justified by real earnings potential and reasonable discount factors. The inevitable reassessment of economic fundamentals by market investors was an important part of the selling pressure and price decline in October.

- The size and speed of the decline initiated by fundamental revaluation of equity values was exacerbated on October 19 by a number of factors:

  -- volume overwhelmed trade processing capacity;

-- many participants pulled back from the markets because of fear and shock -- and because of uncertainties and concerns over (i) the accuracy and timeliness of information, (ii) counter-party solvency, (iii) credit availability, and (iv) de facto, ad hoc market closures or other market disruptions.

-- the financial system came under great stress in the credit, clearing, and settlement area.

- o The Working Group agrees with the Brady Report conclusion that the stock, options, and futures markets are closely linked.

- o The priority goals of the Working Group, therefore, have been to address the major uncertainties and to focus on reductions in possible systemic risk. In this respect, the Working Group followed the agenda established by the Brady Report, which also assigned first priority to the systemic risks identified during the market break.

As a result, the Working Group was able to concentrate its initial efforts on developing the most important system protections, in close consultation with self-regulatory organizations and market participants. The Working Group's conclusions and recommendations, more fully described in the body of the Report and its appendices, are as follows:

1. A "circuit-breaker" mechanism should be put in place that operates in a coordinated fashion across all markets, using pre-established limits broad enough to be tripped only on rare occasions, but which are sufficient to support the ability of payment and credit systems to keep pace with extraordinarily large market declines.

2. A significant number of important initiatives should be implemented in a timely fashion to improve further the operation of the credit, clearing, and settlement system -- beyond the notable and valuable changes the markets have made already. Although these initiatives are complex and technical, they would result in highly significant improvements in the vital linkages within the credit markets.

3. Current minimum margins for stocks, stock index futures, and options provide an adequate level of protection to the financial system. Prudential

maintenance margin percentages required for carrying an individual stock should be significantly higher than the percentage margin required for a futures contract on a stock index.

4. Contingency planning, including the continuation of the Working Group, is an important, ongoing responsibility that the Working Group members are implementing.

5. Capital adequacy is being addressed in material ways by the markets and should continue to be reviewed and improved whenever necessary.

6. Markets already are making -- and should continue to make -- significant efforts to enhance the operational capacity of trade-processing systems and to improve the fairness and quality of order executions for all investors, large or small.

7. The Working Group should continue to function as a coordinating and consulting mechanism for intermarket issues.

The Working Group can continue to be effective by monitoring the progress of its recommendations, by serving as a consultative and coordinating forum, and by expediting resolution of the remaining issues. The Working Group also believes that the structural weaknesses exposed by the October break can be overcome through cooperative efforts of the relevant government agencies, self-regulatory bodies, market participants, and the Congress.

II. CONTINUING COORDINATION

The Working Group believes that its continuation, in its existing configuration, is an excellent way to continue the process of addressing intermarket issues. Much has been accomplished in a short time frame, but work on a number of issues has not been completed. The Brady Task Force and others have recommended that some additional regulatory mechanism be established to resolve these continuing issues. Recognizing this concern for coordination, the Working Group believes that cooperative efforts under the existing regulatory structure will be more effective and less disruptive than more formal, additional legislated structure.

The Working Group believes that private market solutions, where feasible, are preferable to legislation because the private sector is closer to the problems and can address them in a more flexible manner. The Working Group has established a cooperative framework in which regulators, self-regulatory organizations (SROs), and market participants can work together to resolve intermarket issues.

The Working Group already has made progress on the issues deemed most critical to the market's smooth functioning and investor confidence. Equally important, it has created a process for (i) further interagency cooperation on intermarket issues such as clearing and settlement and contingency planning, (ii) monitoring implementation of its recommendations, and (iii) resolving the remaining issues -- and that process is working.

Continuation of the Working Group would be consistent with the spirit and intent of the intermarket coordination bills introduced by Senators Proxmire and Leahy. Both bills are designed to achieve coordinated resolution of intermarket issues by the appropriate agencies. That is precisely what the Working Group is doing, while avoiding the divisive and difficult questions of legal authority, structure, and independence presented by the current bills. The Working Group believes its efforts are succeeding and should be allowed to continue.

There are a number of additional intermarket issues that have been identified that the Working Group believes deserve attention. These issues, as well as continued work on the conclusions and recommendations already reached, will be addressed and progress on them reported in the months ahead.

III. COORDINATED TRADING HALTS AND REOPENINGS

The Working Group recommends coordinated trading halts and reopenings for large, rapid market declines that threaten to create panic conditions. In broad outline the Working Group recommends that all U.S. markets for equity and equity-related products -- stocks, individual stock options, and stock index options and futures -- halt trading for one hour if the Dow Jones Industrial Average (DJIA) declines 250 points from its previous day's closing level. The Working Group also recommends that the New York Stock Exchange (NYSE) use reopening procedures, similar to those used on so-called Expiration Fridays, designed to enhance the information made public about market conditions. Under the Working Group's recommendations, a second closing, this time for two hours, and reopening would occur if the DJIA declines 400 points below its previous day's closing level. The recommendations are detailed in Appendix A.

In designing these procedures, the Working Group has focused on market events that are so dramatic as to trigger ad hoc and destabilizing market closings. This was manifest during the market break through systems breakdowns, reduced liquidity, and concerns over trading because of fears of counter-party and even clearing corporation failure. The Working Group recognizes that trading disruptions are undesirable. Thus, its proposal is designed to substitute planned for unplanned, ad hoc trading halts without increasing the overall frequency of such disruptions. The Working Group's recommendation also recognizes the need for reopening procedures designed to limit the duration of the halt while providing for information dissemination to permit consideration of buy or sell decisions during periods of stress.

Members of the Working Group have consulted with the SROs, as well as with knowledgeable industry participants, about the design of these procedures. The Working Group believes that its recommendations can be implemented most effectively and expeditiously by SRO-initiated rule changes, with appropriate notice, comment, and agency review.

IV. MARGIN REQUIREMENTS

The Working Group considered the appropriate levels of "prudential" margins for stocks, stock index futures and options, defined as the maintenance margin levels needed to protect broker-dealers, futures commission merchants, and clearing corporations from investor and trader defaults on their margin obligations. Based upon the past price movements of stocks and stock indexes, the Working Group calculated the likelihood that prices would move to a point where various margin levels would not satisfy prudential concerns. See Appendix B.

On the basis of these statistical measures, the Working Group concludes as follows. First, current minimum margin requirements provide an adequate level of protection to the financial system, although they do not cover all possible price movements. Because margin levels sufficient to provide protection against all possible price movements would impose unacceptable costs to market participants and the liquidity and efficiency of markets, the Working Group agreed that means other than margins to protect against extreme price movements should be considered. In this connection, the Working Group recognized that other mechanisms are in place that address the risk of large price movements relative to margins, such as capital requirements, clearing-fund guarantee deposits, and intra-day variation margin payments. Moreover, the Working Group's

recommendations on a circuit-breaker mechanism and credit, clearing, and settlement improvements should add significant protections against financial system risks from extreme price movements.

Second, the prudential maintenance margin percentages required for carrying an individual stock should be significantly higher than the percentage margin required for a futures contract on a stock index. This conclusion follows from the facts that stock indexes have a smaller percentage price variability than do individual stocks and the payment period for margins in the futures market is shorter than the period for stocks. The extent to which stock margins should exceed those for futures depends not only on measured volatilities and stated grace periods, but also on (i) actual margin settlement and position sell-out practices, (ii) portfolio strategies, such as the diversification of stock portfolios and the combination of stock, futures, and options positions, and (iii) the application of margin exemptions.

These conclusions concerning minimum margins relate only to minimum levels of margin set by regulatory or self-regulatory organizations. The Working Group notes that financial intermediaries typically require an amount in excess of these minimums for less credit-worthy customers and those with concentrated positions. Furthermore, capital requirements of firms and clearinghouse guarantee funds further enhance the stability of the securities and futures clearance and settlement systems.

The Working Group was not able to agree on whether or not it is appropriate or effective to raise margins above prudential levels in an attempt to reduce leverage or dampen volatility. Chairman Ruder believes that certain futures-related trading strategies have resulted in a dramatic increase in the size and velocity of institutional trading which, in turn, has resulted in substantially increased price volatility. For this reason, Chairman Ruder believes that, at least as an interim measure, margins on futures and options should be increased, in order to increase investor confidence, decrease derivative market speculative activity, and reduce the illusion that the derivative markets provide sufficient liquidity to allow investors and traders to liquidate quickly large portions of their entire portfolios. Chairman Gramm, the Treasury, and Chairman Greenspan, on the other hand, do not believe that the evidence supports the conclusion that higher margins will reduce volatility. Moreover, higher margins raise transaction costs and could have a negative effect on market liquidity and efficiency, possibly increasing volatility, and risking the movement of futures trading into off-shore markets.

The members of the Working Group disagreed about the appropriate scope and form of federal oversight of margins.

Chairman Gramm believes, based on the historical record, the different function and practices of futures margins, and the interest of individual firms and clearinghouses in protecting their capital, that the current approach to futures margins -- set by SROs, with emergency authority at the CFTC -- is entirely appropriate. Chairman Gramm also believes that it may be reasonable to have different regimes for equities since such cash market investments can involve purchases on credit and, in many cases, have lengthy settlement periods.

Chairman Greenspan and the Treasury believe that, while the primary responsibility for setting margins in all markets should be with the SROs, which have the superior expertise and economic stake to perform this role most effectively, there should be authority for each SRO's regulator to disapprove margin rule changes. There is sufficient possibility that at some point SROs might establish margins that were inconsistent enough to present market problems or set them at levels that might present potential costs to other parties that regulatory approval should be established in all markets. Chairman Greenspan and the Treasury do not feel that there is sufficient justification for adding any further levels or mechanisms for federal oversight beyond the primary regulator.

Chairman Ruder agrees with Chairman Greenspan and the Treasury on the need for regulatory rule disapproval authority, but feels that it is important to add a mechanism (i) by which any unresolved disputes that might arise between the SEC and the CFTC over margin levels established by their respective SROs and not disapproved by the relevant regulator would be settled by decision of the Federal Reserve, and (ii) by which the Federal Reserve would have residual authority to adjust margins taking into account leverage and investor protection concerns.

V. CLEARING AND SETTLEMENT RECOMMENDATIONS

The Working Group reviewed existing audit, clearing, and payments systems to identify and set priorities for actions that could be taken to reduce uncertainty, increase coordination, assure confidence in the integrity of such systems, and facilitate their smooth operation in volatile markets. In undertaking its review, the Working Group also interviewed major market participants, including large commercial and investment banks, exchanges, and clearing organizations. (The views of these market participants are summarized in Appendix C.)

Based on these interviews and on its own analysis, the Working Group endorses the view that the coordinated functioning of these systems is integral to the proper functioning of the financial markets as a whole and is pleased to report that significant progress has been made. In this connection, and as more fully set forth in Appendix D, the Working Group recommends the following agenda of additional measures to achieve the goal of more perfectly coordinated systems.

First, it is necessary that parties to the clearing and settlement process have a clear, consistent understanding of their obligations and those of other parties and that all parties make arrangements to have the financial capacity and the information necessary to assure timely compliance with those obligations. To this end, the Working Group recommends a number of incremental actions, which generally can be undertaken by federal regulators within the scope of their existing authority. (See Appendix D, Parts I and II.)

The Working Group believes that the system refinements based on these actions, a number of which are already underway, will go a long way toward coordinating the clearing and settlement process, can be undertaken in the short term without legislation, and should be undertaken without delay.

Second, the Working Group believes that the securities, futures, and banking industries should explore and pursue initiatives to ease potential cash flow stress by reducing the size of payment obligations. Experience during October 1987 indicates that large intra- and intermarket payments could add strain to the financial system during periods of volatility. As a result, the Working Group believes that ways to reduce such cash flows must be explored. The Working Group believes that this effort can be accomplished by immediate incremental actions that would facilitate evaluation of the necessity for, and the relative costs and benefits of, more profound structural changes to securities and derivative markets clearing and settlement systems. One potential method for reducing cash flows is cross-margining. Coupled with futures-style margining for options, this method may have particular promise and should be tested. Other approaches to netting obligations also should be pursued, including netting member settlements at clearing banks. In the near term, the Working Group recommends efforts to set up pilot programs. In the longer term, the Working Group believes that the securities and futures markets should explore the costs and benefits of a wider range of initiatives, including shortened settlements in the cash market that, if implemented on a coordinated basis with expanded linkages with the derivative markets, could reduce system risks and payments.

In summary, the Working Group recommends specific actions in the following areas:

(1) clarification of the obligations of participants in the clearing and settlement process;

(2) facilitation of timely payments;

(3) exploration of methods to reduce cash flows and simplify settlement systems; and

(4) refinement of relevant legal frameworks.

1. Clarification of the obligations of participants in the clearing and settlement process. The Presidential Task Force on Market Mechanisms identified events in October 1987 that apparently caused some market participants to question previous assumptions concerning the set of obligations of the various parties to the clearing and settlement process. The Working Group believes that uncertainty concerning these rights and obligations may not only diminish overall confidence in such processes, but also could lead to unilateral actions that are inconsistent with such obligations and that could adversely impact the willingness or ability of other market participants to satisfy their own obligations.

CONSEQUENTLY, THE WORKING GROUP RECOMMENDS THAT EFFORTS BE MADE TO CLARIFY AND CONFIRM THE RIGHTS AND DUTIES OF PARTIES TO THE CLEARING AND SETTLEMENT PROCESS. (See Appendix D, Part I.)

2. Facilitation of timely payments. Increased clarity of clearing and settlement obligations should be accompanied by efforts to ensure the capacity of those who are obligated to make or finance such payments to do so on a timely basis. The Working Group has identified several features of existing clearing and settlement systems relevant to payment capacity that can be enhanced to facilitate the timely satisfaction of payment obligations.

CONSEQUENTLY, THE WORKING GROUP ADVOCATES MEASURES TO ENHANCE THE CAPACITY OF EXISTING SYSTEMS TO ASSURE TIMELY FLOWS OF FUNDS INCLUDING:

-- Reviewing facilities to support payments;

-- Augmenting the ability of clearing organizations to satisfy the obligations of defaulting market participants;

-- Consider increasing Fedwire availability in highly volatile markets;

-- Coordinating settlement processes across markets; and

-- Increasing the availability of timely information to participants in the settlement process concerning payment obligations and cash flows. (See Appendix D, Part II.)

3. Exploration of methods to reduce cash flows and simplify settlement systems. The Working Group reviewed a number of potential means of modifying existing clearing and settlement systems to reduce the necessity for cash payments on an intra-market and intermarket basis. Such measures may require material structural changes and may affect legal relationships that reflect the distinctive functions of and regulatory protections applicable to the affected financial markets and thus raise substantial legal, policy, and administrative issues. The Working Group believes that these issues have not been explored sufficiently to warrant a determination as to whether to recommend full-scale implementation of these measures at this time. Nonetheless, the Working Group does recommend a cross-margining pilot program for non-customer accounts.

THE WORKING GROUP ALSO RECOMMENDS THAT SEVERAL SPECIFIC INITIATIVES BE EXPLORED TO DETERMINE THE DESIRABILITY AND FEASIBILITY OF VARIOUS APPROACHES TOWARD MORE EXTENSIVE MODIFICATIONS OF EXISTING CLEARING AND SETTLEMENT ARRANGEMENTS TO REDUCE CASH TRANSFERS, SIMPLIFY SETTLEMENT SYSTEMS, AND UNIFY CLEARING, INCLUDING:

-- Futures style margining for options;

-- Netting of cash flows on a contractual basis;

-- Shortening the five-day settlement process for securities transactions; and

-- Integrated clearing. (See Appendix D, Part III.)

4. Refinement of relevant legal frameworks. The Working Group, recognizing the very complex legal and federal issues involved, is also proposing that consideration be given to harmonization of transfer, delivery, and pledge requirements for options and uncertificated securities at the federal level. Further, the Working Group recommends that bankruptcy provisions relevant to securities and commodity brokers be reviewed to assure appropriate coordinated bankruptcy protection of such market participants. (See Appendix D, Part IV.)

VI. CONTINGENCY PLANNING

The Working Group believes that the purpose of contingency planning is to ensure that regulatory agencies and the self-regulatory organizations have in place systems that will allow them to identify emerging problems quickly and to react appropriately in the event of a market crisis. In an important sense, the Working Group recommendations for implementing circuit breakers, improving information flows, clarifying credit arrangements, and strengthening the clearing and settlement process can be viewed as a key part of contingency planning; by improving the market system's ability to withstand and react to shocks, these measures will enhance the system's first line of defense.

Going beyond this, the Working Group has given high priority to enhancing channels of communication among staffs of the respective regulatory agencies. The first step in this process has been to improve each agency's awareness of the existing information flows available from routine surveillance systems and to identity more clearly the existing regulatory mechanisms available to each agency to act in crisis situations. Further steps include the distribution of a contact list of names and telephone numbers of key officials at the regulatory agencies and the securities and futures exchanges. Similar efforts to improve communications and share information among the exchanges and their respective clearing organizations are being implemented by the SRO's. In particular, the securities and futures exchanges have developed a hot-line capability that allows simultaneous communication between all relevant markets. Moreover, the clearing organizations are working on procedures for sharing information both on a routine basis and during periods of market stress.

In addition, staffs of the four agencies are working jointly to improve information sharing across the agencies, with particular emphasis on a framework for coordinated monitoring of exposures and developments at major market participants. This is expected to incorporate a framework for identifying their

activities in each of the various markets, for monitoring intra-company financial interrelationships, and for assessing the extent of credit and funding interrelationships among such participants. It also will include coordinated efforts to encourage further improvements in the scope and quality of information available to such market participants, and hence to the regulators, from their internal exposure control systems. It is expected that this will enhance prospects for coordinated actions by the authorities and SRO's to protect the integrity of markets and clearing systems in extreme situations.

As with all of these issues, the Working Group recognizes that there are international dimensions to policy coordination. In this regard, steps are being taken by the various agencies to strengthen existing contacts with their counterpart authorities in other major market centers to improve further this aspect of market surveillance.

Beyond such efforts, contingency planning does not lend itself to pre-determined responses. Our financial markets have experienced various difficulties in the past, and each has raised different concerns and required a different response by regulators and market participants. Recognizing this, the Working Group believes that contingency planning must provide a flexible framework for addressing problems in a way which does not create unreasonable expectations of government intervention in a crisis. Continuation of the Working Group could enhance this flexibility by providing a forum for informed discussion and resolution of problems as they are identified.

VII. SUMMARY OF ACTIONS TAKEN ON CAPITAL ADEQUACY AND SYSTEMS CAPACITY ENHANCEMENT

Market participants, SROs, and regulatory agencies have taken or are planning a number of significant actions to enhance capital and improve automated systems -- two of the issues the Working Group and others have identified as critical to the financial integrity and smooth functioning of the markets. This section summarizes developments regarding: (A) specialist capital; (B) broker-dealer capital; (C) financial integrity in the futures markets; and (D) systems capacity. A more complete listing of actions taken is found in Appendix E. The Working Group will continue to monitor developments in these areas to ensure that needed improvements are made.

A. Specialist Capital

Because of the unique responsibility of specialists to maintain fair and orderly markets, it is important that specialists have sufficient capital during periods of high volume

and market turmoil. A specialist's ability to take the other side of a transaction when no one else is willing to do so depends on liquidity. During the October break some specialists on the NYSE and the American Stock Exchange (Amex) reached the limits of their buying power or encountered serious solvency concerns. This contributed to the market's difficulties and to problems faced by investors seeking to execute orders.

During the October break the NYSE required specialists to have minimum capital of the greater of $100,000 or a percentage of the value of shares of the stock assigned to them. The last time the NYSE changed its specialists' capital requirements was in 1977. Since then, of course, specialists' exposure has risen with the bull market and increased volume and volatility.

The President of the NYSE and the Brady Task Force have suggested that no amount of capital could enable a specialist in effect to stand in front of a stampeding market. The SEC's Staff Report, The October 1987 Market Break (February 1988), concurs, pointing out that it is unlikely that increased levels of specialist capital could have retarded to any degree the market decline of October 19 and 20. The SEC also stated that it is unrealistic to expect any one group of market participants to have or commit sufficient capital to retard extraordinary selling pressures. Nevertheless, the SEC Staff Report concluded that minimum specialist capital requirements imposed by the exchanges do not reflect the actual capital needed to maintain fair and orderly markets in securities with different trading characteristics. Accordingly, the SEC has urged the exchanges to consider revising the minimum financial requirements imposed on specialists to reflect more closely the requirements of today's markets.

The Working Group is concerned that past requirements for specialist capital may not be sufficient. The SEC and securities SROs are best suited to resolve these issues because they are closest to the problem. Indeed, they already have made substantial progress to bolster the capital of specialists:

- The SEC has recently approved a proposed rule change by the NYSE to raise the minimum dollar amount for specialists' capital to $1 million from $100,000 and to increase the measure based upon the trading unit position to three times its current level. (For example, the current 5,000 share position requirement for common stock has been increased to 15,000 shares.)

- o The NYSE has increased its monitoring of both specialists' capital and positions by requiring that such information be filed with the NYSE by 9:00 a.m. daily.

- o In an effort to attract more capital, the NYSE has revised its Rule 98 to suspend a prohibition on securities underwriting firms acquiring specialists. The proposed rule change was approved by the SEC on a temporary, emergency basis. A proposed rule change to make this modification permanent has been filed with the SEC.

The Amex and regional exchanges also have taken or are considering actions to enhance specialists' capital and the exchanges' surveillance of specialists' financial condition (as described more fully in the appendix).

The Working Group encourages the SEC and its constituent self-regulatory bodies to continue to review these efforts and to enhance specialists' ability to continue their function during volatile market conditions whenever necessary.

B. Broker-Dealer Capital

In addition to specialists' capital, the Working Group considered the capital adequacy of options firms and firms conducting a public business and/or trading for their own accounts.

The SEC's report found that, although the largest upstairs firms suffered substantial losses as a result of the October break, none fell below the Commission's net capital early warning levels. Of the approximately 6700 upstairs firms, about 60 were at some time in violation of the net capital rule. Of that number, only three carried customer accounts and only one of those had to be liquidated under the Securities Investor Protection Act.

The SEC's report also found that some options market makers experienced substantial losses, which created severe liquidity problems at some of their clearing firms.

The SEC concluded that, in light of the increased volatility in the market, it would reexamine the minimum net capital required of certain types of broker-dealers as well as the level and structure of haircuts for equity securities and futures. In addition, the Commission plans to review financial activities conducted in affiliates of broker-dealers to determine whether these financial activities create undue risk exposure for the

broker-dealers and the financial markets generally. The Commission also will examine regulatory requirements regarding the amount of equity an options market maker should have in its account and the amount of market maker business a clearing firm should carry without additional resources.

The securities clearing houses also are making significant progress in this area:

- The Options Clearing Corporation (OCC) has undertaken a special study of its systems that will include eight broad areas for review, including those identified in the SEC Staff Report. The objective of the OCC study is to identify any structural weaknesses or areas that can be improved.

- OCC has been considering increasing its net capital requirements and will analyze the costs and benefits of such increases as part of its study.

The Working Group encourages the SEC, SROs, and clearing houses to continue this process of evaluating the sufficiency of broker-dealer capital and finding ways to improve existing practices and requirements.

C. Capital Adequacy in the Futures Markets

The CFTC has taken a number of actions to assess the operation of CFTC and futures SRO financial regulatory systems during the market break, to identify measures that could be taken to reinforce the capacity of existing financial systems, to respond to extreme market volatility, and to stimulate SROs to review and enhance their own programs to augment available financial protection. These recommendations were made, notwithstanding the fact that there were no defaults of futures commissions merchants (FCMs) nor significant problems at such firms. These actions include:

- Establishment of a centralized computer base for futures commission merchant financial data; and

- Enhancement of market financial surveillance programs.

In response to the CFTC's recommendations, the futures exchanges have taken a number of actions to enhance the financial security of the futures markets. These actions include the following:

- The Chicago Mercantile Exchange's (CME) pool of security deposits, which are liquid funds to be used in the case of a default, was increased from $4.5 million to $42 million. This fund is but one source to which the Exchange would look in the event of a default. The Exchange also has a common-bond system that provides for the allocation among its clearing members of any loss to the Clearing House caused by a default. The aggregate capital of all Exchange firms is approximately $17 billion.

- The CME has passed a rule requiring guarantees from the owners of clearing members. The rule essentially requires each owner of 5 percent or more of the equity securities of the clearing member to guarantee all obligations arising out of the non-customer accounts (house and proprietary) of the clearing member.

- The CME's Clearing House is in the process of negotiating a substantial committed line of credit with major banks. This will provide added liquidity to the Clearing House to allow it to meet its obligations in the event of unusual conditions in the financial markets.

- Over the past year, the CME significantly increased the number of memberships that each clearing member must have in order to maintain clearing privileges. (These memberships may be sold by the Exchange in the event of a default by the firm.) As of May 6, 1988, all clearing members must have at least six memberships, two in each of the three divisions of the Exchange. Clearing members with a large number of branch offices or guaranteed introducing brokers have an additional membership requirement. Based on membership prices at the end of March 1988, the value of these memberships is $1.6 million per clearing member.

The foregoing actions are highlighted from a more extensive list contained in Appendix E. The Working Group encourages the CFTC and its SROs to continue to evaluate and improve further their programs.

D. Systems Capacity Enhancements

The GAO, in its "Preliminary Observations on the 1987 Crash," concluded that enhancement of the SROs' automated operational systems is a critical action that needed to be taken immediately. The SEC's Report also concluded that the October break demonstrated a need to expand the capacity of the NYSE to

meet the increased liquidity demands created by today's trading strategies and market structures. The Brady Report also cited the need to improve overall computer and communications performance.

The Working Group notes that substantial progress has been and is being made, but agrees that further improvements are needed in this area. Among the enhancements already in process are the following:

The New York Stock Exchange (NYSE)

- The NYSE is planning to have the capacity to handle a peak of 600 million shares by June of this year, and it believes that if it were to experience a 600-million-share day now, it would be able to process it with significantly fewer delays than the Exchange experienced last October.

- On April 30, the NYSE conducted a test of its 11 computer systems to determine whether it already could handle a 600 million share day. The preliminary results of the test indicated that core portions of the NYSE's order handling systems generally operated effectively.

- Beyond this, the NYSE is planning to have the capacity by late 1989 to process a billion shares.

- The NYSE is initiating an independent audit of its trading systems by an outside firm every 12 to 18 months to further ensure their proper operation. As the audits are conducted, the NYSE is going to share the findings with the SEC.

- In November 1987, the NYSE increased the Designated Order Turnaround (DOT) system's memory and separated several of the system's data files to allow more efficient processing. Further system enhancements are scheduled to be completed by July 1988 to improve DOT's processing capability even more.

- In January 1988, program changes were completed in the Limit Order System to reduce system bottlenecks discovered during the October market break. A major upgrade of the system with more efficient computers was completed in March 1988, resulting in a 40 percent increase in capacity.

- The NYSE had begun to replace completely its Automated Pricing and Reporting System prior to October 1987, but only a small fraction of the new system was operational by the week of the 19th. An entirely new system was completed on February 22, 1988.

- The ability of the NSYE's Universal Floor Device Controller to store and process data has been increased. To add additional capacity, major portions of data normally routed through the Universal Floor Device Controller are being re-routed to other systems, a process that will be completed by the end of June 1988.

- On January 19, 1988, the NYSE opened its expanded Blue Room, adding 30 more high speed printers for an increase of 20 percent. Seventeen more high speed printers were added to the trading floor in March 1988. In addition, the NYSE currently is working to double the speed of all existing printers.

- The NYSE also has increased the number of electronic display books on the trading floor by 70 percent, reducing the overall need for printers. In addition, it has increased the number of stocks on display books by over 140 percent since October 19th, so that currently there are approximately 1,150 stocks on 376 display books.

- The NYSE recently announced the formation of an Operations Advisory Committee to evaluate problems encountered during peak processing periods and to recommend synchronized corrective actions that would enhance the entire process.

- In March, the NYSE established a Pension Managers Advisory Committee to help make the NYSE more aware of the investment needs of fund managers and help keep the fund managers better informed of the system capabilities of the Exchange now and in the future.

The American Stock Exchange (Amex)

- The Amex is working with those specialists who have touchscreen execution (AutoPer) terminals located behind them to provide space to relocate the terminals in front to the front of the specialists post.

- In addition, the Amex is in the process of redesigning the AutoPer screen to eliminate the need, in some instances, to use an additional page to complete execution of an order. The redesigned screen will permit specialists to execute orders even more quickly and reduce the possibility of having orders print and being executed out of sequence.

- Amex has a pilot program underway with respect to the implementation of an electronic book that will provide smoother integration of AutoPer and booked limit orders.

- The Amex is developing systems to allow same-day floor-derived points of sale comparison for equities and options. It is well into the design phase of this system and plans to implement the first stage in the last quarter of 1988.

- The exchanges' examination of ways to upgrade order delivery systems to improve the capacity of Amex's systems to execute all orders -- including Intermarket Trading System (ITS) commitments -- is ongoing. The Amex and other exchanges are in the process of implementing such upgrades, and believe such developments will permit it, under reasonably anticipated high volume conditions, to execute incoming ITS commitments in a timely manner.

- An arrangement has been decided upon whereby OPRA will regularly update the vendor/user committee of the Information Industry Association on volume and capacity projections to assist the vendor community in its efforts to have facilities keep pace with growth and provide for unexpected spikes in activity.

- The Amex has adopted a policy of delisting selected series of puts and calls within an options class when no open interest exists.

- The Amex and the Chicago Board Options Exchange (CBOE) have proposals, currently awaiting SEC action, that will expand the use of their small order execution systems for options. In addition, the CBOE has filed with the SEC a number of proposed rule changes to increase market participation in its system.

National Association of Securities Dealers (NASD)

- The NASD has responded to problems encountered during the market break by proposing a number of initiatives:
  - raising the penalty of unexcused withdrawals by market makers from National Association of Securities Dealers Automated Quotation System (NASDAQ);
  - requiring all NASDAQ market makers to participate in its Small Order Execution System (SOES);
  - providing that SOES executions will continue in an Over-the-Counter (OTC)/National Market System security when quotes are locked or crossed;
  - eliminating preferencing of market makers when a locked or crossed market exists; and
  - establishing the Order Confirmation Transaction service that will permit firms to access market makers over the computer without voice contact.
- During and after the week of October 19, the NASD expanded the hours of operation of its Trade Acceptance and Reconciliation Service, which allows firms quickly to reduce the number of uncompared transactions.
- The NASD agrees with the SEC's suggestion that the SROs accelerate their efforts to generate same-day compared trades, thereby enabling members to know their positions and market exposure before trading commences the next day. The NASD plans an Automatic Confirmation Transaction System that, together with the Small Order Execution System, Order Confirmation Transaction Service, and the Trade Acceptance and Reconciliation Services, would provide an almost total same-day comparison capability for the NASDAQ market.
- The regional stock exchanges also have taken or are planning a number of actions to enhance their systems (as described more fully in the appendix).

Amex, NYSE, NSCC Committee

- A committee composed of representatives of the Amex, NYSE and National Securities Clearing Corporation (NSCC) has been formed to explore the possibility of shortening the comparison cycle with the intent of

increasing the amount of time available to process "don't knows" (DKs) and "questionable trades" (QTs) by one full day.

Option Price Reporting Authority

- The Options Price Reporting Authority (OPRA) Technical Committee immediately began to design system modifications that will allow the announcement of new series through computer formatted messages. Such modifications will in turn enable vendors to implement computer automatically programs to add these new series to their systems, eliminating the time-consuming and error-prone process of transcribing the administrative messages that is currently used. The Committee reached agreement on the message type at a meeting on December 9th, and implementation of the system modifications is expected to be completed this summer.

The Working Group encourages the securities SROs and clearing agencies to continue to make progress to help the market function smoothly and to provide prompt, quality executions for all market participants.

APPENDIX A

COORDINATED TRADING HALTS AND REOPENINGS

I. 250 Point Dow Jones Industrial Average (DJIA) Decline

A. Price Limits

1. Stock Index Futures Price Limits: Stock index futures markets will set downward price limits at levels comparable to a 250 point Dow Jones Industrial Average (DJIA) decline below its previous day's closing value. When the limit is reached, the markets will trade only within the limit, unless there is a trading halt as described in Section B or a reopening following a trading halt as described in Section C.

2. Broad-based Stock Index Options: Broad-based stock index options markets (OEX, NYA, XMI, FNCI, XVL) will establish either comparable price limits or procedures under which all trading in the index options will cease at levels comparable to a 250 DJIA decline.

B. Trading Halt

If the DJIA falls 250 points below its previous day's closing value, all broker-dealer intermediated equity security 1/ trading in the United States, including all standardized individual stock and stock index options trading, and all stock index futures trading in the United States, will halt.

C. Reopenings

1. Halts initiated prior to 3:00 p.m. EST or EDT

a. The New York Stock Exchange (NYSE): If the halt occurs prior to 3:00 p.m. EST or EDT, procedures similar to those used to open stocks on the NYSE on Expiration Fridays will be used in order to reopen trading on the NYSE 60 minutes after the initiation of the halt. Thus:

1/ "Equity security" is defined in Section 3(a)(11) of the Securities Exchange Act of 1934 and Rule 3a11-1 thereunder.

(i) 30 minutes after the halt occurs, market order imbalances for major stocks will be publicly disseminated (at present it is not feasible to include limit orders).

-- As a logistical matter, it may be necessary to have some size threshold for order imbalance dissemination (e.g., 50,000 shares) to facilitate prompt dissemination of key order imbalances. In addition, some limitation on the total number of stocks for which imbalances are disseminated may be necessary.

(ii) 45 minutes after the halt, quote indications will be provided indicating the expected range in which each stock would reopen.

(iii) 60 minutes after the halt, each stock will either:

AA. reopen, or

BB. if new orders substantially change the order imbalance, new quotations will be disseminated

-- this presumes that orders can be cancelled at any time prior to the reopening

CC. subsequent quote indications will be disseminated on an as needed basis in 10 minute intervals (or 5 minutes if the subsequent quote indication overlaps the prior quote indication).

b. Other Markets:

(i) Other markets will use any appropriate reopening procedures designed to permit them to recommence trading one hour after the initiation of the stock trading halt, except that trading in

standardized options on individual stocks will not recommence until trading in the underlying stock has recommenced in the stock's primary market.

(ii) After a one hour halt, trading in stock index futures and options could occur (at the option of each futures or options exchange) below the 250 limits (see Section I.A.), unless the markets decline to levels equivalent to 400 DJIA points below their previous day's closing levels (see Section II).

2. Halts initiated between 3:00 - 3:30 p.m. EST or EDT:

If the 250 level is reached between 3:00 - 3:30 p.m. EST or EDT, abbreviated reopening procedures will be used in order to permit markets either to reopen or to establish closing prices by the markets' normal closing times.

3. Halts Initiated After 3:30 p.m. EST or EDT: If the 250 level is reached after 3:30 p.m. EST or EDT, the market will close for the rest of the trading day.

II. 400 Point DJIA Decline

A. Similar price limit, halt, and reopening procedures will be used for DJIA declines of 400 points, except that the halt will last two hours instead of one. Thus, if the 400 level is reached after 2:00 p.m. EST or EDT, the markets will close for the rest of the trading day.

III. Trigger Readjustments

A. Based upon current index levels, 250 and 400 point DJIA declines are approximately equivalent to 12% and 20% declines. The 250 and 400 point triggers and the comparable triggers for the stock index futures and options markets will be reviewed at least quarterly to determine if changes in index levels necessitate changes to these triggers in order to maintain percentages approximately equivalent to 12% and 20%.

APPENDIX B

ADEQUACY OF PRUDENTIAL MARGIN REQUIREMENTS

While margins requirements may be thought to serve a variety of purposes, the crucial one analyzed in this appendix is the setting of margin requirements to yield a reasonable level of protection against default, i.e., prudential maintenance margins. The purpose of prudential margins is maintaining the financial integrity of the obligation, i.e., assuring that market participants who take positions in securities, futures, or options can fulfill their obligations to brokers and other intermediaries so that brokers and clearinghouses can fulfill their obligations as well. Default can occur only if an adverse price change, after the margin call but before the position is sold out, is larger than the remaining margin and the customer avoids paying the resulting liability. Whether a particular margin level is considered adequate to protect brokers and futures commission merchants (FCMs) depends, among other things, on the level of default risk exposure that will be tolerated. Margins of 100 percent would fully assure the solvency of the brokers or FCMs, but would also tend to reduce the benefits experienced by investors from trading on margin or hedging with stock-index futures and options. Generally, much lower margin levels are adequate to provide protection against 90, 95, or even 99 percent of expected price movements. Very low margin levels, however, could leave the broker or FCM open to an unacceptable risk of failure. The margin level ultimately chosen will reflect the risk exposure tolerance of the exchange or clearinghouse.

Another important factor relevant to the adequacy of margin requirements is the period of time the broker or the FCM is exposed to default risk on a customer's open positions--the amount of time expected to lapse between the margin call and the customer's response. This grace period depends on the liquidity of the relevant investor group and the efficiency of the clearing and settlement system. In the futures markets, where investors are primarily institutions and settlement occurs at least daily, margins that will cover the vast majority of one-day price movements would be considered adequate. In the cash markets, however, where individual investors are relatively more important and settlement takes as long as five days, margins should be adequate to cover price movements over three or five-day periods. A broker is allowed to give an investor up to 15 business days to meet a margin call. In practice, however, most brokers demand payment over a shorter period.

Experimental Design

This analysis of margin adequacy takes two different, but related, approaches. The first is a non-parametric approach in which actual frequency distributions in price movements are calculated over various sample periods. These distributions are then employed to determine the margin required to cover price changes given various levels of exposure.

The second is a parametric approach following Figlewski
Stephen Figlewski, "Margins and Market Integrity: Margin
tting for Stock Index Futures and Options," The Journal of
tures Markets, 1984, pp. 385-416). Assuming that stock prices
llow a logarithmic diffusion process with a constant drift
rameter (r) and volatility (v) per unit of time, one can
lculate the probability that a security price will change
ough, following a maintenance margin call, such that the
maining margin is insufficient (i.e., the margin is
olated). While this probability obviously depends on r and v,
also depends on the level of the maintenance margin and the
ngth of the grace period. In particular, the higher the
intenance margin, the lower the probability of a margin
olation; the higher r (which can be thought of as an annualized
te of return due to price movements during the grace period),
e lower the probability of a margin violation; the higher v
he standard deviation of price movements), the higher the
obability of a margin violation; and, the longer the length of
e grace period, the higher the probability of a margin
olation.

on-Parametric Results

Frequency distributions were calculated (a) only for price
clines and (b) for all price changes over six sample periods:

(1) January 1986 - April 1988,

(2) January 1986 - September 1987,

(3) October 1987 - April 1988,

(4) November 1987 - April 1988,

(5) June 1984 - April 1988,

(6) June 1984 - September 1987.

Tables 1-6 indicate the minimum levels of maintenance
rgins necessary to protect brokers and futures clearinghouses
gainst losses that might be incurred should stock prices decline
d investors fail to meet margin calls. In particular, the
bles show margins required to cover most of the recent price
clines in the Standard and Poor's 500 stock index and price
clines in the 75 individual stocks that compose the
stitutional index, that is, stocks of large companies favored
institutional investors. Block 2 in tables 1-6 indicates the
rgins necessary to protect against price declines on 50 percent
the 75 individual stocks composing the Institutional Index
at demonstrated the least variability during this sample period
r varying grace periods and levels of exposure. Blocks 3-5
dicate similar margins for larger percentages of the stocks in

this index. Tables 7-12 contain comparable information for all price changes in the nearest to expire S&P 500 and MMI maxi futures contracts.

The two key factors relevant to judging the adequacy of margin requirements--the acceptable level of exposure and the length of the grace period--are highlighted in the tables. For example, the first three lines of each of the first twelve tables indicate the margins necessary to protect FCMs and broker/dealers against possible price movements of the S&P 500 index over periods of one, three and five days. (Price declines for the cash index in tables 1-6; price declines and increases for the futures index in tables 7-12). The three columns indicate the 90, 95, and 99 percent confidence intervals or levels of exposure associated with the indicated margins. For example, the first line in the S&P 500 index block in table 1 indicates that, during the January 2, 1986 to April 29, 1988 period, a one-day price decline greater than 4.40 percent or a five-day price decline greater than 10.09 percent occurred in only one percent of the observations. In other words, if the distribution of price declines were assumed to remain the same in the future as it was during this period, a margin of 4.4 percent when margin calls must be met on the next day, or of just over 10 percent when margin calls do not have to meet until 5 days have passed, would be expected to provide adequate protection against 99 percent of all price declines of the S&P 500 index. From table 7, comparable, though slightly larger, margins would be required to provide adequate protection against 99 percent of all price declines or 98 percent of all price changes (i.e., increases and decreases) for the S&P 500 futures index. Furthermore, as exhibited in blocks 2-5 of tables 1-6, since individual stocks typically exhibit larger variability than either cash or futures indexes, margin requirements are accordingly higher for individual stocks given the same grace period and level of exposure.

To summarize, for each sample period, tables 1-12 demonstrate three important characteristics concerning the adequacy of prudential maintenance margins:

(1) The lower the level of exposure (i.e., the higher the desired level of protection against price changes), the higher the level of margins.

(2) The longer the grace period, the higher the necessary margin level for a given level of exposure.

(3) Indexes (cash or futures) exhibit less price volatility than do individual stocks, implying that lower margins on index products than on individual stocks are adequate to achieve the same protection against price changes.

Given the sample specificity of the calculated frequency distributions, a comparison of the margins required over different samples sheds light on the robustness of "adequacy of margins" calculations over time. Various permutations of time periods were chosen--short and very recent periods, long periods, and periods including and excluding the October 1987 stock market crash and the recent period of price volatility. Because of differences in price volatility over time, the actual levels of margins required to cover price movements are very sensitive to the time period of analysis. In particular, inclusion of the October 1987 market break uniformly and markedly increases the "adequate" margin level. For example, table 3, which contains only observations from the market break and the recent period, indicates much higher margin levels than table 2, which contains only pre-crash observations. For each of the periods, however, the level of prudential margins still depends on the level of exposure, the length of the grace period, and the volatility of indexes versus individual stocks, as discussed above.

Parametric Results

Determining an "adequate" margin requirement using the parametric approach outlined above requires knowledge of r and v in addition to the length of the grace period and the acceptable level of exposure. Reasonable ranges of values for r and v can be obtained by calculating these two variables over various sample periods. Table 13 contains these calculations annually for the S&P 500 and the NYSE Composite indexes for the period 1975-87, for the first 63 business days of 1988, and for four of the six sample periods examined in tables 1-12. The tables reveal that the annual values of r range from -0.126 (i.e., -12.6 percent) to 0.281 for the S&P 500 index and range between -0.100 and 0.284 for the NYSE Composite index. Annual values of v range between 0.092 and 0.342 for the S&P 500 index and between 0.087 and 0.318 for the NYSE Composite index. Note that the annual values of v for 1987 are by far the largest during the more than thirteen years examined. Furthermore, the value of v for the first 63 business days of 1988 has remained somewhat above pre-1987 levels. Consequently, higher than historically normal values of v may now be appropriate for setting prudential margins.

Also, since an objective of this analysis is the examination of margin adequacy for individual stocks as well as for cash and futures indexes, it is necessary to obtain values of v for individual stocks. Chicago Research and Trading Ltd. (CRT) has provided estimates of v for three categories of stocks: (a) low volatility stocks (e.g., utilities), (b) medium volatility stocks (e.g., conglomerates), and (c) high volatility stocks (e.g., computer software companies). During approximately the last two years (including October 19, 1987), CRT's highest calculated value of v is 1.10. This value is used as the upper extreme in the margin calculations that follow.

Table 1

MAINTENANCE MARGIN REQUIRED TO COVER POTENTIAL PRICE DECLINES

Period: 1/2/86 - 4/29/88

		Exposure tolerance		
		90%	95%	99%
1. S&P 500 Index				
	One-Day	1.33	2.03	4.40
	Three-Day	2.53	3.73	7.09
	Five-Day	3.30	4.82	10.09
2. 50% of Institutional Index Stocks*				
	One-Day	2.06	2.94	5.44
	Three-Day	3.89	5.19	9.27
	Five-Day	4.85	6.60	11.75
	Fifteen-Day	7.28	10.41	24.66
3. 80% of Institutional Index Stocks*				
	One-Day	2.36	3.26	6.52
	Three-Day	4.20	5.78	11.66
	Five-Day	5.38	7.30	17.22
	Fifteen-Day	8.55	12.41	30.62
4. 90% of Institutional Index Stocks*				
	One-Day	2.53	3.48	7.29
	Three-Day	4.47	6.20	13.19
	Five-Day	5.61	7.62	19.12
	Fifteen-Day	9.05	13.60	33.45
5. 100% of Institutional Index Stocks*				
	One-Day	3.55	5.29	8.87
	Three-Day	5.82	8.04	19.16
	Five-Day	7.61	10.24	29.21
	Fifteen-Day	11.96	17.39	42.80

* 75 Individual Stocks Composing the Institutional Index

Table 2

MAINTENANCE MARGIN REQUIRED TO COVER POTENTIAL PRICE DECLINES

Period: 1/2/86 - 10/2/87

		Exposure Tolerance		
		90%	95%	99%
1. S&P 500 Index				
	One-Day	1.07	1.65	2.56
	Three-Day	1.94	2.80	4.85
	Five-Day	2.35	3.69	6.35
2. 50% of Institutional Index Stocks*				
	One-Day	1.84	2.47	3.95
	Three-Day	3.29	4.46	6.85
	Five-Day	4.12	5.54	8.25
	Fifteen-Day	5.98	8.26	12.41
3. 80% of Institutional Index Stocks*				
	One-Day	2.09	2.77	4.45
	Three-Day	3.66	4.98	7.90
	Five-Day	4.61	5.94	9.52
	Fifteen-Day	6.92	9.27	14.66
4. 90% of Institutional Index Stocks*				
	One-Day	2.23	2.96	5.00
	Three-Day	3.85	5.12	8.23
	Five-Day	4.78	6.29	10.88
	Fifteen-Day	7.26	10.44	16.78
5. 100% of Institutional Index Stocks*				
	One-Day	3.21	4.47	6.54
	Three-Day	5.22	6.96	11.78
	Five-Day	6.26	8.31	13.49
	Fifteen-Day	10.50	13.80	22.12

* 75 Individual Stocks Composing the Institutional Index

Table 3

MAINTENACE MARGIN REQUIRED TO COVER POTENTIAL PRICE DECLINES

Period: 10/5/87 - 4/29/88

		Exposure Tolerance		
		90%	95%	99%
1. S&P 500 Index				
	One-Day	2.29	3.82	14.98
	Three-Day	4.36	6.08	23.85
	Five-Day	5.12	9.05	26.25
2. 50% of Institutional Index Stocks*				
	One-Day	3.19	4.79	16.77
	Three-Day	5.69	7.68	24.53
	Five-Day	7.38	10.37	26.65
	Fifteen-Day	10.68	17.35	30.53
3. 80% of Institutional Index Stocks*				
	One-Day	3.65	5.51	19.80
	Three-Day	6.66	9.87	28.47
	Five-Day	8.52	13.71	31.37
	Fifteen-Day	13.77	26.65	37.26
4. 90% of Institutional Index Stocks*				
	One-Day	4.02	6.25	21.83
	Three-Day	7.37	10.72	31.38
	Five-Day	9.59	16.09	34.61
	Fifteen-Day	16.24	28.50	44.21
5. 100% of Institutional Index Stocks*				
	One-Day	5.63	7.87	26.80
	Three-Day	10.25	17.02	37.00
	Five-Day	13.24	27.47	41.64
	Fifteen-Day	23.17	35.46	56.03

* 75 Individual Stocks Composing the Institutional Index

Table 4

MAINTENANCE MARGIN REQUIRED TO COVER POTENTIAL PRICE DECLINES

Period: 11/2/87 - 4/29/88

		Exposure Tolerance		
		90%	95%	99%
1. S&P 500 Index				
	One-Day	1.93	2.65	6.16
	Three-Day	3.66	4.53	6.43
	Five-Day	4.64	5.10	7.55
2. 50% of Institutional Index Stocks*				
	One-Day	2.57	3.74	7.08
	Three-Day	4.63	5.83	8.67
	Five-Day	5.72	7.03	9.31
	Fifteen-Day	7.09	8.77	12.40
3. 80% of Institutional Index Stocks*				
	One-Day	3.02	4.28	8.63
	Three-Day	5.50	6.86	10.62
	Five-Day	6.80	8.37	12.00
	Fifteen-Day	9.48	12.10	15.17
4. 90% of Institutional Index Stocks*				
	One-Day	3.26	4.76	9.74
	Three-Day	5.91	7.76	12.04
	Five-Day	7.23	8.99	13.21
	Fifteen-Day	11.46	14.07	19.12
5. 100% of Institutional Index Stocks*				
	One-Day	5.08	7.01	11.42
	Three-Day	7.92	10.99	20.87
	Five-Day	11.05	13.60	17.38
	Fifteen-Day	14.52	20.12	25.97

* 75 Individual Stocks Composing the Institutional Index

Table 5

MAINTENANCE MARGIN REQUIRED TO COVER POTENTIAL PRICE DECLINES

Period: 6/1/84 - 4/29/88

		Exposure Tolerance		
		90%	95%	99%
1. S&P 500 Index				
	One-Day	0.96	1.53	3.12
	Three-Day	1.87	2.84	6.07
	Five-Day	2.27	3.83	7.41
2. 50% of Institutional Index Stocks*				
	One-Day	1.89	2.66	4.72
	Three-Day	3.37	4.65	7.74
	Five-Day	4.12	5.80	9.66
	Fifteen-Day	6.08	8.59	19.53
3. 80% of Institutional Index Stocks*				
	One-Day	2.10	2.92	5.46
	Three-Day	3.78	5.15	9.07
	Five-Day	4.68	6.46	11.35
	Fifteen-Day	7.12	10.21	27.28
4. 90% of Institutional Index Stocks*				
	One-Day	2.27	3.12	6.34
	Three-Day	4.07	5.47	10.59
	Five-Day	5.08	6.89	13.76
	Fifteen-Day	8.18	11.45	28.76
5. 100% of Institutional Index Stocks*				
	One-Day	3.38	4.79	7.88
	Three-Day	5.76	7.80	14.04
	Five-Day	7.35	9.73	17.28
	Fifteen-Day	11.28	15.04	36.29

* 75 Individual Stocks Composing the Institutional Index

Table 6

MAINTENANCE MARGIN REQUIRED TO COVER POTENTIAL PRICE DECLINES

Period: 6/1/84 - 10/2/87

		Exposure Tolerance		
		90%	95%	99%
1. S&P 500 Index				
	One-Day	0.84	1.21	2.32
	Three-Day	1.60	2.18	3.89
	Five-Day	1.93	2.83	5.19
2. 50% of Institutional Index Stocks*				
	One-Day	1.73	2.36	3.82
	Three-Day	3.02	4.07	6.20
	Five-Day	3.74	5.03	7.88
	Fifteen-Day	5.33	7.30	11.70
3. 80% of Institutional Index Stocks*				
	One-Day	1.96	2.69	4.37
	Three-Day	3.37	4.60	7.27
	Five-Day	4.14	5.55	8.91
	Fifteen-Day	6.17	8.54	14.23
4. 90% of Institutional Index Stocks*				
	One-Day	2.10	2.76	4.60
	Three-Day	3.61	4.86	8.23
	Five-Day	4.59	6.33	10.12
	Fifteen-Day	7.39	10.00	16.29
5. 100% of Institutional Index Stocks*				
	One-Day	3.15	4.44	6.61
	Three-Day	5.41	7.32	11.15
	Five-Day	6.77	8.86	12.86
	Fifteen-Day	10.62	13.05	27.78

* 75 Individual Stocks Composing the Institutional Index

Table 7

MAINTENANCE MARGINS REQUIRED TO COVER POTENTIAL PRICE MOVEMENTS

Period: 1/1/86 - 4/22/88

	Exposure Tolerance					
	Price Declines			Price Increases		
	90%	95%	99%	90%	95%	99%
1. S&P 500 Futures						
One-day	-1.57	-2.39	-5.33	1.57	1.96	3.87
Three-day	-2.74	-4.08	-7.88	2.73	3.47	7.03
Five-day	-3.74	-5.03	-11.08	3.36	4.45	6.51
2. MMI maxi Futures						
One-day	-1.57	-2.34	-4.85	1.58	2.21	3.87
Three-day	-2.64	-3.88	-7.03	2.75	3.70	5.96
Five-day	-3.50	-5.11	-10.40	3.65	4.59	6.62

Table 8

MAINTENANCE MARGINS REQUIRED TO COVER POTENTIAL PRICE MOVEMENTS

Period: 1/1/86 - 10/1/87

	Exposure Tolerance					
	Price Declines			Price Increases		
	90%	95%	99%	90%	95%	99%
1. S&P 500 Futures						
One-day	-1.19	-1.92	-2.98	1.36	1.77	2.76
Three-day	-2.24	-2.99	-5.25	2.50	3.17	4.12
Five-day	-2.76	-4.04	-7.15	3.25	4.08	5.27
2. MMI maxi Futures						
One-day	-1.16	-1.85	-2.81	1.42	1.99	2.78
Three-day	-2.07	-2.96	-4.94	2.56	3.28	4.35
Five-day	-2.62	-3.89	-5.97	3.50	4.21	5.91

Table 9

MAINTENANCE MARGINS REQUIRED TO COVER POTENTIAL PRICE MOVEMENTS

Period: 10/1/87 - 4/22/88

	Exposure Tolerance					
	Price Declines			Price Increases		
	90%	95%	99%	90%	95%	99%
1. S&P 500 Futures						
One-day	-2.52	-3.95	-20.01	2.06	3.54	14.22
Three-day	-4.72	-6.47	-31.17	3.83	5.10	17.95
Five-day	-5.34	-9.43	-33.68	4.85	5.69	13.76
2. MMI maxi Futures						
One-day	-2.84	-4.53	-17.39	2.29	3.81	11.32
Three-day	-4.90	-6.93	-26.19	3.97	4.80	15.19
Five-day	-6.12	-9.72	-29.39	4.37	6.28	14.02

Table 10

MAINTENANCE MARGINS REQUIRED TO COVER POTENTIAL PRICE MOVEMENTS

Period: 11/1/87 - 4/22/88

	Exposure Tolerance					
	Price Declines			Price Increases		
	90%	95%	99%	90%	95%	99%
1. S&P 500 Futures						
One-day	-2.35	-2.95	-7.70	1.79	2.24	4.17
Three-day	-3.77	-5.03	-7.11	3.41	4.50	10.37
Five-day	-4.84	-5.22	-7.92	4.77	5.47	15.43
2. MMI maxi Futures						
One-day	-2.45	-2.92	-7.16	2.06	2.47	3.90
Three-day	-4.10	-5.18	-6.92	3.72	4.67	9.02
Five-day	-5.14	-5.93	-9.18	4.49	6.32	15.41

Table 11

MAINTENANCE MARGINS REQUIRED TO COVER POTENTIAL PRICE MOVEMENTS

Period: 6/1/84 - 4/22/88

	Exposure Tolerance					
	Price Declines			Price Increases		
	90%	95%	99%	90%	95%	99%
1. S&P 500 Futures						
One-day	-1.07	-1.84	-3.41	1.33	1.79	3.37
Three-day	-2.07	-3.06	-6.31	2.42	3.08	4.97
Five-day	-2.56	-4.10	-8.12	3.08	3.99	6.27
2. MMI maxi Futures						
One-day	-1.13	-1.82	-3.93	1.36	1.99	3.81
Three-day	-2.01	-3.03	-6.52	2.48	3.35	4.91
Five-day	-2.60	-4.15	-6.92	3.12	4.13	6.52

Table 12

MAINTENANCE MARGINS REQUIRED TO COVER POTENTIAL PRICE MOVEMENTS

Period: 6/1/84 - 10/1/87

	Exposure Tolerance					
	Price Declines			Price Increases		
	90%	95%	99%	90%	95%	99%
1. S&P 500 Futures						
One-day	-1.00	-1.43	-2.58	1.25	1.68	2.64
Three-day	-1.82	-2.37	-4.64	2.30	2.90	4.16
Five-day	-2.15	-3.12	-5.24	2.93	3.37	5.41
2. MMI maxi Futures						
One-day	-0.94	-1.46	-2.57	1.23	1.65	2.70
Three-day	-1.64	-2.41	-3.88	2.33	2.92	4.15
Five-day	-2.00	-2.94	-4.71	2.94	3.84	5.88

Table 13

MEAN RETURN AND VOLATILITY CALCULATIONS FOR STOCK INDEXES

Period	N*	S&P 500 Index r	S&P 500 Index v	NYSE Composite Index r	NYSE Composite Index v
1975	253	0.281	0.156	0.284	0.153
1976	253	0.180	0.112	0.200	0.109
1977	252	-0.126	0.092	-0.100	0.087
1978	252	0.010	0.127	0.021	0.125
1979	253	0.119	0.110	0.148	0.110
1980	253	0.235	0.166	0.234	0.164
1981	253	-0.105	0.136	-0.093	0.133
1982	253	0.141	0.184	0.134	0.173
1983	253	0.163	0.140	0.165	0.126
1984	250	0.014	0.128	0.013	0.119
1985	252	0.241	0.102	0.239	0.095
1986	253	0.140	0.153	0.134	0.141
1987	253	0.020	0.342	-0.002	0.318
1988	63	0.192	0.233	0.242	0.209
6/1/84-10/2/87	844	0.239	0.137	0.230	0.127
1/2/87-10/2/87	191	0.413	0.158	0.381	0.146
10/2/87-3/31/88	126	-0.484	0.472	-0.457	0.439
11/2/87-3/31/88	105	0.068	0.258	0.099	0.234

* Number of business days.

Table 14

MAINTENANCE MARGIN REQUIREMENTS NECESSARY TO SET PROBABILITY OF MARGIN VIOLATION BELOW ONE PERCENT (r = 0.00)

Grace Period (days)	Values of v 0.10	0.15	0.20	0.25	0.35	0.50	0.75	1.00	1.10
0.2	0.7	1.1	1.4	1.8	2.5	3.5	5.2	6.9	7.6
0.5	1.1	1.7	2.2	2.8	3.9	5.5	8.1	10.7	11.7
1	1.6	2.4	3.1	3.9	5.4	7.7	11.3	14.8	16.1
2	2.2	3.3	4.4	5.5	7.6	10.7	15.6	20.2	22.0
3	2.7	4.1	5.4	6.7	9.2	12.9	18.7	24.2	26.2
5	3.5	5.2	6.9	8.5	11.8	16.4	23.5	30.0	32.5
10	4.9	7.3	9.6	11.9	16.2	22.3	31.5	39.7	42.6
20	6.9	10.2	13.3	16.4	22.1	30.0	41.5	51.1	54.4

Table 15

MARGIN REQUIREMENTS NECESSARY TO SET PROBABILITY OF MARGIN VIOLATION BELOW ONE PERCENT (r = 0.10)

Grace Period (days)	Values of v								
	0.10	0.15	0.20	0.25	0.35	0.50	0.75	1.00	1.10
0.2	0.7	1.1	1.4	1.8	2.5	3.5	5.2	6.9	7.6
0.5	1.1	1.7	2.2	2.8	3.9	5.5	8.1	10.7	11.7
1	1.6	2.3	3.1	3.9	5.4	7.6	11.3	14.7	16.1
2	2.2	3.3	4.4	5.4	7.5	10.6	15.5	20.2	22.0
3	2.6	4.0	5.3	6.6	9.1	12.8	18.7	24.1	26.2
5	3.3	5.1	6.7	8.4	11.6	16.2	23.4	29.9	32.4
10	4.6	7.0	9.3	11.6	15.9	22.1	31.3	39.5	42.4
20	6.3	9.6	12.7	15.8	21.6	29.6	41.1	50.7	54.1

Table 16

MARGIN REQUIREMENTS NECESSARY TO SET PROBABILITY OF MARGIN VIOLATION BELOW FIVE PERCENT (r = 0.00)

Grace Period (days)	Values of v								
	0.10	0.15	0.20	0.25	0.35	0.50	0.75	1.00	1.10
0.2	0.5	0.8	1.1	1.3	1.9	2.7	4.0	5.3	5.8
0.5	0.9	1.3	1.7	2.1	3.0	4.2	6.2	8.2	9.0
1	1.2	1.8	2.4	3.0	4.2	5.9	8.7	11.4	12.5
2	1.7	2.5	3.4	4.2	5.8	8.2	12.1	15.8	17.2
3	2.1	3.1	4.1	5.1	7.1	10.0	14.6	19.0	20.7
5	2.7	4.0	5.3	6.6	9.1	12.7	18.4	23.8	25.8
10	3.8	5.6	7.4	9.2	12.6	17.5	25.0	31.9	34.5
20	5.3	7.8	10.3	12.7	17.3	23.8	33.5	41.9	45.0

The parametric approach enables the analysis of margin adequacy from two angles. First, given a required margin level, values for r and v, and a particular grace period, the probability of a margin violation can be calculated. Alternatively, given values of r and v, a particular grace period, and a desired probability of margin violation (i.e. one minus the level of exposure in decimals), the necessary margin requirement can be calculated. To conform to the format of the non-parametric exercise the latter approach was chosen.

Tables 14-17 contain the margin requirements necessary to achieve a desired probability of a margin violation 0.01 (one percent) in tables 14 and 15, 0.05 (5 percent) in tables 16 and 17) for two values of r (0.00 in tables 14 and 16, 0.10 in tables 15 and 17) and for a wide range of grace periods and values of v. (The margin calculation was found to be relatively insensitive to r. Hence, results using two representative values are the only ones reported.) Grace periods of less than one day were included to examine the impact of intra-day margin calls, a common phenomenon in futures markets.

The calculated margins from the Figlewski model conform quite closely with those calculated in the non-parametric exercise. For example, from table 14, for daily settlement and v=0.35 (just above the calculated value of v for 1987 for the two indexes), a margin requirement of 5.4 percent would be expected to provide adequate protection against 99 percent of all price declines. This is essentially the same as the 4.4 percent contained in table 1 for the S&P 500 index. Furthermore, as the volatility increases, so does the margin requirement given the same level of exposure. Also, as before, if the grace period is 5 days (and v=0.35), the required margin rises to 11.8 percent in table 14, again comparable to the 10.09 percent in table 1. Finally, for a higher level of exposure (table 15 compared with table 17), a lower margin requirement will suffice.

Thus, the parametric exercise yields the same general conclusions as did the non-parametric approach: adequate prudential margins vary inversely with the level of exposure, directly with the length of the grace period, and directly with price volatility.

Conclusion

The existing structure of maintenance margins appears to be adequate for prudential purposes even if one were to assume that protection against 95 or 99 percent of all price declines was required. This conclusion is supported by both the non-parametric exercise conducted across a variety of sample periods and the parametric exercise using historically reasonable values for return and volatility parameters.

An important additional conclusion is that "harmonious" or "consistent" margins across cash and futures markets do not imply

equal margins across cash and futures markets. The analysis here indicates clearly that margin adequacy depends critically on price volatility and the length of the grace period following the margin call. These relationships are clearly evident in the attached tables (e.g., tables 1 and 14), but are visually apparent in figure 1. Figure 1 plots the maintenance margin necessary to achieve protection against 99 percent of all price declines assuming r=0.00 for various grace periods and volatilities. To the extent that the volatility of indexes (cash or futures) is lower than those of individual stocks and that grace periods are longer in the cash market than in the futures market, maintenance margins in the futures market (e.g., point A in figure 1 where v=0.25 and the grace period is one day) are consistent with much higher margins in the cash market (e.g., point B or C where v=0.5 and 1.0, respectively, and the grace period in five days).

Table 17

MARGIN REQUIREMENTS NECESSARY TO SET PROBABILITY OF MARGIN VIOLATION BELOW FIVE PERCENT
(r = 0.10)

Grace Period (days)	Values of v								
	0.10	0.15	0.20	0.25	0.35	0.50	0.75	1.00	1.10
0.2	0.5	0.8	1.1	1.3	1.9	2.7	4.0	5.3	5.8
0.5	0.8	1.3	1.7	2.1	2.9	4.2	6.2	8.2	9.0
1	1.2	1.8	2.4	3.0	4.1	5.9	8.7	11.4	12.5
2	1.6	2.5	3.3	4.1	5.8	8.2	12.0	15.7	17.2
3	2.0	3.0	4.0	5.0	7.0	9.9	14.5	18.9	20.6
5	2.5	3.8	5.1	6.4	8.9	12.6	18.3	23.7	25.7
10	3.5	5.3	7.1	8.9	12.3	17.2	24.8	31.7	34.3
20	4.7	7.2	9.7	12.1	16.8	23.3	33.1	41.6	44.7

Relationship
and Gro
of

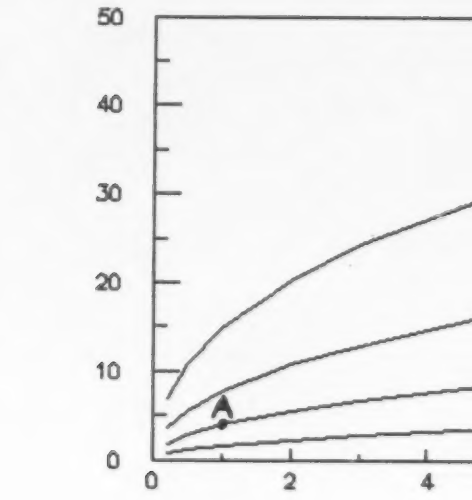
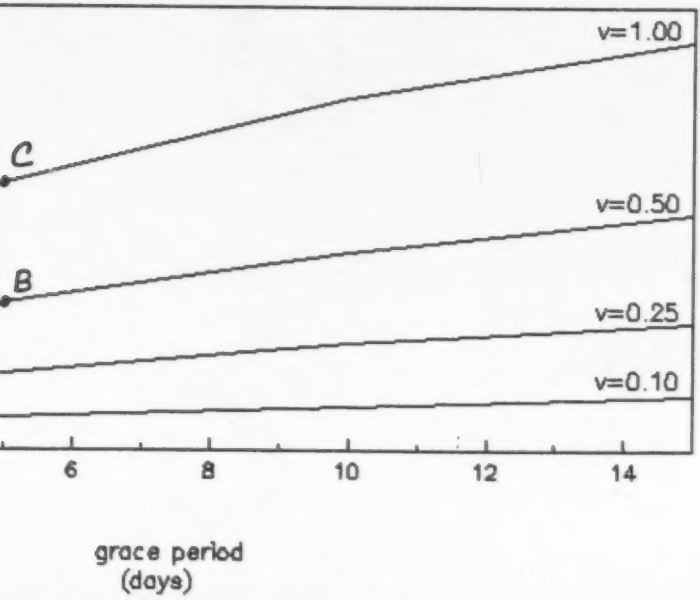


Figure 1
between Maintenance Margin
ce Period for Probability
Violation of 0.01
(r=0.00)



APPENDIX C

REPORT OF STAFF SUBGROUP ON CREDIT
PAYMENT AND SETTLEMENT SYSTEM ISSUES

I. INTRODUCTION AND SUMMARY OF KEY ISSUES

The staff subgroup working on credit and payment system issues has completed interviews with market participants--including SROs, banks, and investment firms--in New York and Chicago. The primary purpose of the visits was to ask senior management of these institutions about weaknesses in the current system that may have impeded the smooth flow of credit and payments in October and to elicit their views on possible steps to strengthen the system. A complete summary of these interviews is contained in Section II below.

The views expressed by the market participants did not imply a need for major reform of the structure of systems for clearing and settling securities and their derivative instruments. Given the magnitude of the payments flows and stresses imposed on the clearing systems in October, most felt that the market mechanisms had held up quite well. Nonetheless, there are areas where it was felt that improvements could be made. In broad terms, these areas include better coordination of payment timing and linkages among the exchanges to ease cash flow problems, clarification of responsibilities of clearing organizations and their members, the application of the Uniform Commercial Code to pledges of securities as collateral for loans, and procedures to ensure adequate information flows on which to base decisions.

Improvements have been made in some of these areas already, and ongoing discussions among the exchanges, regulators, and financial institutions are seeking solutions to others. The following summarizes issues viewed as important in the payment and settlement process and notes those issues viewed as less important.

TO IMPROVE THE COORDINATION AND TIMING OF CASH FLOWS AMONG EXCHANGES:

1. Timing of variation margin pays and collects should be coordinated to ease liquidity problems. Steps already have been taken by the exchanges: intraday

margin pays and collects now are done concurrently on the Chicago Mercantile Exchange (CME), and the CME and Board of Trade Clearing Corporation (BOTCC) have coordinated the timing of daily and intraday settlements. There may be other steps that can be taken, but the private sector appears to be addressing this issue.

2. Efforts to reduce the volume of cash flow by netting payment obligations arising from securities and futures positions across different markets with different settlement procedures and time frames is attractive in concept. Nevertheless, there are difficult practical problems involved in implementing such arrangements. Netting, in effect, would link clearinghouses in risk sharing pools. Of particular concern are legal and economic questions of who bears what risk in the event of a default of one or more parties.

   Formal netting arrangements may be viewed as steps toward longer-run unification of the clearing process under a single clearing structure. Market participants generally were skeptical of the utility and feasibility of creating a single clearing structure in the near future.

3. Cross-margining of futures and options positions would lower initial margin requirements for a given position and consequently would reduce cash or securities behind a given volume of gross positions. The implications of cross-margining for risk exposures is uncertain.

4. The availability of Fedwire during periods of crisis, which may fall outside normal operating hours, is very important. But Fedwire is useful only to the extent that knowledgeable lending officers at banks are available to make credit decisions when funds transfers are needed. Procedures should be established in advance for early opening of Fedwire, if needed, in unusual situations. Such procedures should provide for good communication among the clearing organizations and their members as well as the settlement banks and the Federal Reserve Banks, with informed personnel at banks available to make credit decisions.

TO REMOVE UNCERTAINTY CONCERNING LENDER RESPONSIBILITIES IN CREDIT ARRANGEMENTS:

5. "Finality" of the settlement process prior to the opening of trading is important to market participants. Contractual arrangements between settlement banks and clearing organizations should clarify the responsibilities of each party when clearing member funds are insufficient and determine when payments to the clearing organization are final and irrevocable. To this end, discussions between banks and clearing organizations are underway.

6. Futures commission merchants' (FCMs) responsibilities to their customers in the event of non-payment by a clearing organization should be clarified.

7. Legal means of establishing a "perfected security interest" in an option instrument should be investigated. Existing ambiguities in the Uniform Commercial Code and bankruptcy laws concerning the status of options as collateral inhibit the willingness of some banks to finance options positions. More broadly, efforts to strengthen the legal rights of banks lending against options under federal bankruptcy laws and differing versions of the Uniform Commercial Code would ease lending and collateral processes.

8. The desirability of developing collateral arrangements other than those currently provided by "agreements-to-pledge" (APs) should be investigated to see if greater security can be achieved at reasonable costs. Most market participants, however, suggested that flexibility, competitive pressures, and cost considerations necessitated reliance on APs and expressed concern that requiring delivery of collateral could be destabilizing during times of stress.

9. On the issue of "committed" versus "uncommitted" lines of credit, there appears to be little advantage to recommending greater reliance on "committed" lines. "Material adverse change" clauses may permit creditors to escape such commitments during periods of stress. The cost of a paid line that assured access to credit during crisis periods likely would be prohibitive for borrowers that need it the most.

TO IMPROVE INFORMATION FLOWS AMONG FINANCIAL MARKET PARTICIPANTS:

10. Sharing of information on variation margin pays and collects is important to the exchanges, and systems are in progress to provide this service.

11. Commercial banks do not feel a need to have information on margin pays and collects for their lending decisions. The major banks also do not see a need for margin surplus and deficit data or aggregate position data from the exchanges on a routine basis. Typically, they can get this information quickly from their customers, as needed. Formal arrangements for sharing information with market participants raised concerns about confidentiality problems among those interviewed.

II. SUMMARY OF INTERVIEWS WITH MARKET PARTICIPANTS

On April 11 and 12 staff from the four agencies conducted interviews with senior management at a number of major commercial banks, investment banks, and clearing organizations for equity-related products. The purpose of these interviews was to solicit views of senior market participants at these institutions about what actions, if any, should be taken to strengthen market mechanisms and to ensure the adequacy of information necessary to support credit decisions for financing market positions and funding settlement obligations. To provide a framework for these discussions, a list of questions was sent to the participating institutions prior to the interviews focusing on three broad areas: information to support credit decisions; clearing and settlement system characteristics; and credit facility characteristics.

The questions on "Information to Support Credit Decisions" were intended to evaluate the adequacy of current information flows to creditors; the ability of financial institutions to monitor on a current basis their aggregate credit exposures to customers in different markets as well as their own positions; and the need for greater sharing of position data and other information collected by the futures and options exchanges. "Clearing and Settlement System Characteristics" questions dealt specifically with the operation of margining and clearing arrangements and steps that might be taken to ease or speed the flow of cash across exchanges and among institutions and to remove potential ambiguities in credit transactions among clearinghouses, clearing members, and banks concerning who must pay and when. And finally, a number of questions on "Credit

Facility Characteristics" addressed concerns about specific lending arrangements, including collateral control procedures, financing of options, lines of credit, and the overall effect of the stock market crash on terms of lending. The results of these interviews are summarized below.

Information to Support Credit Decisions

The New York bankers interviewed stated that they are selective in their customer base. Their securities customers comprise a limited number of large, well-established institutions, as well as some major regional firms and specialists. The Chicago banks generally had a somewhat broader customer base. All the banks, however, asserted that maintaining close knowledge of, and relationships with, their customers is the keystone for their lending and credit policies. In this regard, all the bankers interviewed believe that they have ample information to support their credit decisions, that is, they "know their customers." They obtain this knowledge through the process of screening prospective clients, monitoring financial reports, reviewing capital and management structure, routinely reviewing data on items such as online deposit records, credit records, and balance sheets from their customers. When additional or more current information is needed, they call the customer directly. In a crisis, the ability to contact key personnel in the borrowing institution is deemed vital.

Because of customer-bank relationships, the lending institutions do not attach much value to additional information, such as daily variation margin pays and collects data, that might be supplied by futures exchanges. Pay and collect data already are available to the Chicago settlement banks but are not viewed as terribly useful in credit decisions involving large customers. No banks routinely get margin surplus and deficit data or aggregate position data from the exchanges, but they may seek it selectively from customers. While, in some circumstances, the ability to confirm positions through access to a third party source might be useful, it was not deemed necessary.

Although the banks feel that they have adequate information on their customers to make credit decisions, this information did not include full knowledge of individual customers' aggregate exposures across markets. Most of the banks either have, or are seeking to install, procedures for monitoring the bank's aggregate exposure to any one customer, but such systems typically do not track intra-day exposures. Intra-day risk monitoring requires the ability to track positions during the day, which is now done

in only a few markets. Integration of global credit exposures also is done on a less regular basis; several banks noted that information on international position exposures could be obtained through foreign office contacts with a delay of a few hours or a day. The banks are becoming more vigilant in this direction; New York banks, in particular, emphasized concerns about increasing global involvements and efforts to monitor such exposures. For some, global exposures and exposures in non-regulated markets outweigh concerns about domestic futures, options, and securities activity.

The investment banking firms that were interviewed also confirmed the importance of customer relationships in determining credit decisions. These firms may attach somewhat more importance than banks to margin pays and collects and other information that might be provided by the exchanges. Nonetheless, they indicated it would be difficult to implement formal cross-market sharing systems that provide information on a timely basis. Banks, securities firms, and clearinghouses expressed concerns about confidentiality of a formal arrangement; they think that, for competitive reasons, customers and financial institutions might not like to have information shared. A concern was also expressed that current intraday information might be interpreted inappropriately if recipients lacked the expertise and historical background for analysis. Some indicated they would have difficulty handling large volumes of daily data.

Clearing and Settlement System Characteristics

The heavy volume of transactions in October highlighted problems that occur when flows of cash through the system are imperfectly coordinated. Institutions were asked about possible steps to alleviate discrepancies in timing or to reduce the need for funds transfers. Specifically, views were solicited on the substitutability of capital for margins, the timing of variation margin pays and collects, benefits and costs of cross-margining proposals, and systems of netting cash flows. Respondents also commented on the clarity and possible ambiguities in contractual relationships between clearing organizations and clearing banks and between clearing firms and their customers. The importance to creditors and other market participants of knowing that daily margin settlements of the clearing houses are final before the markets open and the adequacy of Fedwire operations for this purpose were discussed.

Substitutability of Capital and Margins. Capital is not viewed by market participants as a substitute for margin deposits or collateral. Both capital and margin play an

important role. Banks and investment houses emphasized that while capital is the ultimate buffer against losses and a major factor affecting credit decisions, it is used to support a variety of activities. Margin deposits or collateral, on the other hand, apply to specific transactions and are a first line of defense against counterparty risk. Margin is not subject to competing claims, and is typically more liquid than capital.

Some of the New York institutions expressed the view that margin on futures and options should be higher. Some said that they set customer futures margins consistently higher than the minimum set by the exchanges; nonetheless, they did not see a need for federal regulation of futures margins.

Timing of Variation Margin Pays and Collects. All the organizations agree that coordinated timing of daily and intra-day margin collections would be helpful. Release of margin collects as well as demands for pays intra-day also is favored. Several changes introduced by the exchanges since October move in these directions. Currently, the CME clearinghouse and the BOTCC make regular daily and intra-day settlements that are coordinated in time. The CME has altered its intra-day practices so that gains are paid out at the time losses are collected. BOTCC already had such a policy. At least one investment bank believed that intra-day distributions by the clearinghouses should be based on the most up-to-date information available to avoid affecting the security of the clearing system. The Options Clearing Corporation's (OCC) daily settlements do not occur until 9:00 a.m., two hours after those of the CME and BOTCC. This discrepancy, however, was not viewed as a significant problem by banks.

Cross-margining and netting proposals. There was less uniformity in views on the benefits and costs of cross-margining, and methods of implementing such proposals. The prospect of lower original margin requirements for a combined futures/options position through cross-margining is viewed as a potential benefit by some clearing organizations and banks. Chicago institutions noted that, in the aggregate, positions might increase in response to reduced margin costs. Possible increases in clearing risk are a concern in cross-margin arrangements.

Some advocate cross-margining as a method of increasing the ability of lenders to finance margin payments; the OCC, for example, suggests that the current cross-margining proposals, which apply to posting of original margins, would create a position that banks can use as collateral. Others noted, however, that cross-margined positions stand as security to the clearing organization. The positions would

be double-pledged if banks relied on them as security for lending.

The futures clearinghouses that were interviewed believe that proposals for cross-margining do not address the problem of funding options positions and the issue of the differential cash flows generated by basic differences in margining systems of futures and options. Cross-margining, as currently described, would reduce only original margin requirements. Even in a unified options/futures clearinghouse, there would be a need for daily margin flows where a trader had a long option coupled with a short futures position, for example. The futures clearinghouses would like to see options markets shift to a margining system similar to that for futures in terms of providing daily cash flow to cover changes in market values. The OCC feels option market participants would oppose such a change. Investment banks also noted that cross-margining does not relieve the cash flow differences between derivative and cash stock positions.

None of the respondents provided concrete suggestions for implementing other netting arrangements to reduce cash flows. While the concept of netting is appealing, it requires coping not only with differences in settlement time frames and different procedures applicable in futures, options, and securities markets, but also with a host of legal questions associated with bankruptcy treatment of netting agreements.

On the issue of unified clearing in general, most of the organizations questioned the utility and feasibility of establishing a single clearing organization. Existing clearing organizations embody considerable expertise geared to the specific needs of the various stock, futures, and options markets. In addition, a single clearing organization would lead to a concentration of risk which currently is diversified across multiple clearinghouses. Some offered the opinion that many of the benefits of unified clearing could be obtained by operating within the existing structures to improve information sharing and to coordinate funds flows and other operating procedures.

Clarifying Ambiguities in Contractual and Lending Relationships. The clearinghouses are working on legal documents that more clearly delineate their responsibilities and those of the settlement banks. For example, the OCC already has an arrangement that, unless the bank notifies the clearinghouse otherwise, the bank is committed to providing funds to cover margin settlements. Bankers view this as a question that can be resolved by agreement between the banks and the clearing organizations.

Two investment banks identified as an important issue the ambiguity surrounding a futures clearing member's obligations to its customers for the payment of margin funds in the absence of the receipt of funds from the clearinghouse. One firm questions whether it is responsible for the clearinghouse to its customers and is reviewing its contracts with its customers as it relates to this point.

Finality of Margin Settlements Prior to Market Opening. There was strong agreement among most of those interviewed that "finality" of the settlement process before the opening of trading was critical to the integrity of the system. (The OCC, which settles after the opening of trading, did not feel pre-opening to be critical, but did want "finality" early in the day.) Otherwise, clearinghouses could face potentially large financial exposures.

Market participants in Chicago stressed the importance of access to Fedwire in this process, with several advocating earlier opening of the wire. Clearinghouses tend to favor routine earlier opening, while banks viewed occasional (as needed) early openings acceptable, perhaps contingent upon exceeding pre-determined price or volume parameters. The Chicago institutions suggested a need to better educate the New York bankers about the futures clearing process and the importance of having knowledgeable persons available to make credit decisions early in the day. Several pointed to the inaccessibility of New York bankers on October 20 prior to the opening of the futures markets.

New York banks had little to say about the question of "finality," while the investment banks viewed "finality" as very important. The issue of altering Fedwire hours generally was not viewed as critical by New York respondents.

Credit Facility Characteristics

The commercial banks reported that their own credit policies and terms of lending have not changed significantly as a result of the stock market turbulence, and the investment banks confirmed that their borrowing arrangements with large banks were largely unaffected. But several institutions remarked that foreign banks and small regional banks have cut back lending to securities firms since October. Some of the interviewed banks discussed changes in their internal procedures for assessing credit exposures, including more formal global communications structures and developing comprehensive measures of risk exposure to individual customers.

None of the respondents saw any benefit of increasing reliance on "committed" versus "uncommitted" lines of credit. Committed lines generally have "material adverse change" clauses which may permit the creditor to escape its commitment during periods of stress. The availability of credit will ultimately depend on the lender/customer relationship.

Two credit areas where some of the banks expressed dissatisfaction with current systems are collateral pledging arrangements and financing of options positions. Each of these is discussed briefly below.

Collateral Control Procedures. Collateral for secured loans may be held in a number of ways. It may be delivered to the bank lender or a third party custodian. It may be held at the Depository Trust Company (DTC) on a book entry basis and transferred from one member's account to another upon instruction. Or, it can be maintained in a segregated account at the borrower's office under an agreement-to-pledge arrangement (AP). With AP arrangements, creditors usually conduct periodic audits of the securities firms' procedures to ensure the adequacy and safety of the pledged collateral.

Agreement-to-pledge arrangements are quite common. From the borrower's perspective, AP is preferable because it costs less than pledging collateral through DTC. Also, when stocks or securities are put into a pledge account at DTC, they cannot be released without the permission of the lender. A firm that finances equity holdings (its own inventories or customer debits) through DTC pledging worries that the lender will not release the stocks in time for the securities firm to get them to the next party.

Most banks indicated that competitive pressures and cost considerations necessitated reliance on APs and recognized that a change to require delivery of collateral would be destabilizing during a crisis. If one bank suddenly demands delivery of collateral, others would do the same and the result would be a "disaster." Some of those interviewed suggested that the Depository Trust Company may not have the capacity currently to handle all collateral should lenders require it.

While banks recognized the needs served by AP arrangements, several indicated dissatisfaction with these arrangements. Auditing the status of collateral is difficult and, thus far, no court has ruled on the validity of the creditor's lien on collateral under APs. Several banks indicated that if they have a concern about the counter-party, they will not use this system. One bank

reported that, because of these legal ambiguities, it has over time reduced the volume of its AP lending.

One investment banking firm identified problems surrounding the original margin deposits of registered investment companies as an important issue. Currently, such an investment company is required to post original margin in a bank or other third party custodial account, and the FCM must provide funds from its own account to meet the customer's margin obligations with the clearinghouse. These third party custodial requirements reportedly create liquidity problems in volatile situations, and it is not clear how such accounts would be treated should the FCM go bankrupt. This investment banking firm suggested review of SEC regulations prohibiting investment companies engaged in futures trading from depositing original margin with their FCMs.

Financing Options Positions. Bankers, other than two Chicago banks, are reluctant to extend credit for options positions because of the volatility of these instruments and ambiguities in the Uniform Commercial Code and bankruptcy laws about their status as collateral. Most of the banks stated they generally do not finance options positions for these reasons and one bank indicated, in addition, that it did not have the expertise to dispose of the collateral in the event of defaults. The question of obtaining additional financing for options was not seen as a regulatory issue, but as a legal question of how to establish a "perfected security interest" in an option instrument.

APPENDIX D

CLEARING AND SETTLEMENT RECOMMENDATION

I. Clarification of Clearing and Settlement Obligations

The Working Group believes that the reduction of uncertainty concerning the obligations of participants in the clearing and settlement process and concerning the ability of such participants to discharge their obligations is an important improvement that can be made to address the impact of the stock market decline of October 1987 upon clearing and settlement mechanisms. Both the Securities and Exchange Commission (SEC) and Commodity Futures Trading Commission (CFTC) reports on the October 1987 market events identify instances in which margins owed or payable on options and futures positions were not paid within normal time frames. These delays have led some market participants to question previous assumptions concerning the obligations of various parties in the settlement chain. While the issues they raise are, in many instances, at odds with settled law and practice, the Working Group believes that efforts should be made to establish a clear, uniformly held understanding of the obligations of each party in the settlement process. The Working Group therefore recommends that steps be taken to confirm existing law and to dispel ambiguities in the following areas:

A. Clearing banks' obligations to honor their confirmations of variation payments. The SEC and CFTC have recommended that contracts between clearing organizations and their clearing banks be clarified to assure certainty that bank confirmations of payments to the clearing organization are irrevocable. A further point that may require clarification is the extent to which clearing banks that confirm variation margin payments for defaulting customers may claim rights to original margin deposits held by the clearing organization on behalf of such customers. The Board of Trade Clearing Corporation, Chicago Mercantile Exchange Clearing House and the Options Clearing Corporation are currently reviewing draft agreements designed to afford greater clarity as to the relationships between clearing banks and clearing organizations.

Action items:

The CFTC and SEC should monitor the options and futures self-regulatory organizations' (SROs) progress toward finalizing revised settlement agreements with their clearing banks.

The Working Group supports conclusion of agreements which specify that payment obligations are final once confirmed.

B. Clearing organization guarantees and timely payment. Generally, clearing organizations are required to make variation margin payments without regard to whether they have "received" variation payments from clearing firms. It is important to confirm that clearing organizations guarantee payment of profits and losses accrued as of each day's settlement. Such payments should ordinarily be backed by final confirmations received by futures clearing organizations prior to the opening of trading or, in the case of the Options Clearing Corporation, prior to 9:00 a.m. Central Time. In any event, such payments are guaranteed by the clearing organization and therefore do not depend upon the clearing organization's receipt of funds from the clearing firms from which such funds are owed. Further, clearing organizations should release such payments promptly in accordance with their rules and by-laws.

Action items:

The SEC and CFTC should confirm that futures and options clearing organization guarantees assure payments owed collecting firms in accordance with their rules and that such payments should be released timely in accordance with such rules and by-laws.

Clearing organizations should review their by-laws and rules in this regard and consider whether further specificity concerning payment guarantees and timing of those payments would be desirable.

II. Facilitate Timely Payments

The SEC and CFTC Reports on the October Market Break describe the crucial role of payment systems in securities and futures markets. Those markets depend on payment systems to move funds and provide financing to meet clearing member and clearing organization payment obligations within established time-frames. Experience during the market break indicates that enhancements to existing payment systems to assure coordinated intermarket payments should be pursued.

The Working Group believes that assurance of the full and timely satisfaction of clearing and settlement obligations can be fostered by increasing the coordination of settlement processes, the information available to market participants concerning their payment obligations and other payment-related data, the accessibility of wire transfer systems, and the financial resources available to clearing organizations to fulfill their guarantee obligations in the event of a clearing firm default. The Working Group therefore recommends that actions be taken in the following areas to increase the ability of market participants to fulfill their payment obligations on a timely basis.

A. Review of arrangements to support payments by clearing members to settlement banks. Clarifying the obligation of settlement banks to honor commitments to clearing organizations is just one step in the process and must be supported by a review of the arrangements in place to support the making of such commitments. During times of stress, settlement banks may be called upon early in the morning to "confirm" to clearing organizations large payments by clearing members. In the absence of good funds from those firms on hand at the bank, the settlement bank may determine that the payment called for exceeds its prudential limit for unsecured transfers and therefore refuse to "confirm" the payment before the market opens. In this event, consequences which could ensue include unwarranted liquidation of a firm's positions or continued trading by a firm which may later be found to be insolvent. Mechanisms should be established that allow clearing firms to be assured that their payments to clearing organizations will be "confirmed" and that provide comfort for banks to make the desired confirmations.

Action item:

Federal regulators should review current facilities and consider what further prudential measures are necessary, including requiring that the relevant market participants have secure facilities in place that will support large payments to clearing organizations.

B. Increase the liquidity and security of clearing organizations.

1. Review the adequacy of clearing organization guarantee funds, and where appropriate, increase member contribution requirements. Futures and securities clearing organizations collect from and

pay to clearing members significant dollar amounts each day (routinely ranging from $50 million to $500 million in the aggregate and, on particularly volatile days, exceeding $1 billion). Futures and securities clearing organizations, generally, are obligated to make those payments regardless of member defaults. An important back-up source of funds (in addition to individual member margin deposits) in the event of default is the clearing organization's guarantee fund (also known as clearing or participants' fund), to which clearing members are required to contribute.

Action item:

Clearing organizations should review the adequacy of clearing member guarantee fund contributions, in light of other financial protections and system safeguards. Federal regulators should assess the results of these reviews.

2. Enhance the liquidity of guarantee funds. Futures and securities clearing organizations currently maintain high proportions of their guarantee funds in letters of credit and other non-cash interests. Because of the potential urgency of demands for cash flows generated in volatile markets, the immediate availability of sufficient clearing funds in cash and cash-equivalents in conjunction with credit lines to redress the expected counterparty risk assumed by the clearing organization under the traditional clearing organization guarantee is desirable.

Action item:

The SEC and the CFTC should encourage securities and futures SROs to explore the desirability of converting portions of existing securities and futures clearing organizations' guarantee funds to cash or cash equivalents on an incremental basis.

C. Increase the availability of payment-related information. The Working Group believes that in addition to assuring that market participants have a clear understanding of their payment obligations, measures should be taken to assure that market participants have access on a timely basis to information concerning the specific size and nature of those obligations so that they can make appropriate arrangements to fulfill them. Critical to reducing

risks and increasing confidence in the stock futures and options markets are efforts to monitor clearing firm risk more effectively on a coordinated basis. During the market break, clearing corporations effectively communicated on an ad hoc basis regarding firms suspected of being in financial difficulty. Nevertheless, the Working Group strongly supports the development of regularized systems which allow all clearing corporations to identify the system-wide payment obligations and position exposures of all clearing firms. The Working Group recommends that information systems be enhanced in three key respects to increase the timeliness and availability of margin and position data.

1. Maximize cross-market input into the existing futures pay, collect, and margin surplus data system. The Board of Trade Clearing Corporation (BOTCC) has in place a system for the routine, electronic exchange of pay and collect data which will include all futures clearing organizations and, when formatting issues are resolved, will also include Options Clearing Corporation (OCC) data pursuant to agreements already in place. The addition of National Securities Clearing Corporation (NSCC) data also is under discussion. Inclusion of margin surplus and deficit data in the pay and collect system is being explored as well. Appropriate securities data should be integrated into this system to maximize its usefulness as a tool for monitoring inter-market exposures.

Action items:

Procedures should be implemented fully for centralized collection and availability of pay and collect information.

Subject to appropriate control, cost, confidentiality and oversight procedures, NSCC and OCC should be encouraged to provide data to the BOTCC pay and collect system. BOTCC should be encouraged to develop appropriate software to accommodate such data.

Users of the system should consider, collectively, how the system should be operated and paid for.

2. Enhance trade matching capacity to supply increased data concerning intra-day exposures and foster development of on-line trade matching systems. The Working Group believes that the capacity of market participants to satisfy the large cash demands generated in volatile markets such as occurred in October 1987 may be materially affected by their ability to monitor their exposures on a daily and intra-day basis and consequently to ascertain their payment obligations on a timely basis. In addition, such data should enhance the security of clearing organizations by permitting them to respond to intra-day position changes that increase financial risk and could assist lenders in making earlier credit assessments, potentially reducing the credit judgments required to be made at the time of daily margin settlements. Futures contract markets and options exchanges currently complete initial trade comparisons on a same-day basis. Securities and over-the-counter ("OTC") trades are compared on a same-day and a next-day basis. The BOTCC currently has intra-day trade matching systems that match trades at 11:30 a.m. and 1:30 p.m. Central Time, as well as at the close of trading each day; the Chicago Mercantile Exchange (CME) also has developed intra-day trade matching capacity. The SEC has recommended that the New York Stock Exchange, American Stock Exchange, and the National Association of Securities Dealers accelerate the development of systems to compare all trades on the trade date. That process has already begun.

Action items:

Near Term: The SEC, should continue to encourage affected national securities exchanges and the National Association of Securities Dealers, to establish systems and procedures necessary for same-day trade comparison of inter-dealer corporate equity transactions.

Far Term: The SEC and CFTC should foster progress toward on-line trade matching systems at securities, futures and option exchanges.

3. Increase availability of securities position data. The CFTC currently receives on a daily basis for each futures market data detailing the aggregate positions of each clearing firm and the positions

of individual traders that exceed specified reporting levels (large traders). Similarly, the securities SROs have access to data for broker-dealer proprietary positions. In addition, the SEC has recommended to Congress establishment of a comparable large-trader reporting system for the securities markets to identify customers engaging in large securities transactions. OCC position data, for which reporting systems are currently being developed, could be used in the initial phase of such a system. Such data and other available securities data on cash market positions eventually could be incorporated in the position data base currently under development by the CFTC to produce aggregate position data for clearing firms and large traders in securities as well as futures markets. Such data would be useful in analyzing the combined risk positions of firms across markets on an "as needed" basis in periods when augmented surveillance is desirable. Consideration must be given to the specific data to be collected; controls surrounding that data to address, among other things, confidentiality concerns (particularly with respect to foreign investors); and allocation of costs associated with collecting and maintaining position data.

Action items:

Near Term: Immediate development of a trial reporting system of large-trader data for OCC positions, perhaps through incorporation in the existing CFTC database with direct SEC access;

Far term: Consider legislative changes to the securities laws necessary to obtain large-trader data.

D. Arrangements to support payments

1. Increase coordination of margin calls and settlements. The Working Group believes that the effectiveness of clearing and settlement systems is enhanced by the use of settlement procedures that occur at consistent times and that use daily intra-day margin calls to reduce the volume of funds required to be transferred at settlement. Since October 1987, Chicago futures clearing organizations and OCC have increased their use of intra-day margins calls. Currently, BOTCC and CME

daily and intra-day settlements occur on the same schedule. Daily morning settlements occur at 7:00 a.m. Central Time and intra-day calls are made on a routine basis by both clearing organizations at 2:00 p.m. Central Time. OCC's daily settlement, however, occurs at 10:00 a.m. Central Time. The CFTC's Financial Follow-up Report recommended increased use of routine intra-day margin calls to reduce the burdens of effecting large daily margin settlements in volatile markets. Particularly in volatile markets, predictable intra-day margin flows, coordinated across markets, and consequent reduction in the size of daily settlements, would be facilitated by the use of an intra-day call on a consistent basis in options and futures markets. The SEC Division of Market Regulation's Report on the October market break urged OCC to review its pay/collect system, including the adequacy of its variation margin collection system. The Working Group recommends that the timing of settlements on the BOTCC, CME and OCC be harmonized to facilitate orderly cash flows and credit decisions.

Action items:

The SEC and CFTC should encourage OCC and commodity clearing organizations to complete their system reviews with a view to harmonized settlement time frames.

In particular, OCC should ensure that its revised procedures for intra-day margin calls to the extent used are coordinated with intra-day margin calls of futures clearing organizations.

2. Increase Fedwire availability, at least in extremely volatile markets, and coordinate operations during banking or market center holidays. The Fedwire currently opens at 7:30 a.m. Central Time, a half hour after daily settlement confirmations are due on the BOTCC and CME. Although clearing banks generally confirm margin payments without reliance upon Fedwire funds transfers prior to the market's opening, a number of market participants have expressed the view that earlier availability of Fedwire transfers could help assure the availability of funds in circumstances in which credit extensions

of unusual magnitude are required and could reduce daily settlement pressures. In addition, bank holiday schedules vary among market centers and may not coincide with trading market holiday schedules.

Action items:

The Federal Reserve Board should explore earlier opening of the Fedwire as needed during volatile markets. Earlier opening of the Fedwire would be useful only to the extent that knowledgeable officers at banks are available to make credit decisions and approve funds transfers. Futures and securities SROs should establish arrangements with member firms to ensure that early opening procedures for Fedwire can be effectively used.

SROs, regulators and market participants should review and augment existing mechanisms to assure smooth market operations when banks in one market center are closed but are open in other market centers and when markets are open but banks are not.

3. Establish framework for periodic meetings of clearing organizations, clearing banks, federal regulators and SROs. A round-table discussion forum, which includes representatives of the BOTCC, CME, OCC, NSCC and the Depository Trust Company, clearing banks, securities SROs and federal regulators, has been established to address means of enhancing coordination of settlement processes. The monitoring coordination group, which is composed of all securities clearing organizations, also met recently in Washington concerning measures to enhance clearing agency oversight of members and coordination with marketplace SROs. Periodic meetings, including additional securities SRO participants, to discuss coordination of and assure appropriate contingency planning with respect to settlement processes, should be encouraged.

Action item:

The Working Group should encourage establishment of a regular schedule of meetings among participants in futures and securities clearing and settlement processes and federal regulators.

III. Explore Methods to Reduce Cash Flows and Simplify Settlement Systems

The Working Group believes that the above measures to increase the certainty and reliability of clearing and settlement payment systems should be taken on a priority basis. These measures are designed to ensure that existing systems operate effectively even in volatile markets. The Working Group has also reviewed proposed measures to reduce the size of cash transfers required to be made in volatile markets and to further coordinate clearing and settlement systems. The Working Group believes that efforts to explore measures that could reduce the size of net cash flow obligations should be a priority. Although an important goal, the Working Group is cognizant of the many difficulties in increasing coordinated clearing of related stock, futures and options products. These difficulties range from differences in margining procedures and settlement time-frames to inconsistent treatment of securities and futures for bankruptcy purposes. Consequently, the Working Group recommends that measures which address possible structural modifications in existing systems and that could potentially reduce the cash flows through settlement systems and simplify clearing and settlement processes be explored to provide a basis for determining whether more profound systems changes are appropriate. The Working Group recommends that the following actions be taken to address the potential costs and benefits of structural modifications of existing clearing and settlement systems:

A. Explore the utility of cross-margining, through a pilot program limited to non-customer funds. Current cross-margining proposals are designed to reduce initial margin requirements but do not reduce the necessity for variation margin transfers. However, as discussed below, modification of option margin systems to resemble futures-style margin systems could permit cross-margining systems to further reduce cash flows. Alternatively, mechanisms for facilitating lending against the excess value of long options positions could also generate cash for such purposes. A trial cross-margining program is appropriate to permit evaluation of the capacity of cross-margining systems to simplify payment structures and reduce cash flows in a controlled environment.

Action items:

Near Term: CFTC and SEC should expedite consideration of current rule proposals before them which would establish a pilot program for cross-margining of house positions cleared by the

Intermarket Clearing Corporation for the Philadelphia Board of Trade, and the New York Futures Exchange.

Other clearing organizations should be encouraged to consider, and the SEC and CFTC should facilitate, cross-margining proprietary position pilot programs for products such as stock index options and futures.

The CFTC should evaluate whether there are mechanisms to permit floor traders and market makers to participate in cross-margining pilot programs consistent with its segregation rules and, if not, the desirability of changing those rules.

Far Term: The SEC and CFTC should work with the Securities Investor Protection Corporation (SIPC) and other federal agencies, as necessary, to resolve relevant legal issues, and to determine what legislative changes are necessary and desirable to facilitate a broader cross-margining program.

B. Explore use of futures-style margin settlements for options. A number of market participants interviewed by the Working Group staff stated that cross-margining systems would have limited utility in reducing cash flows because futures gains and losses are paid on a daily basis but securities and option gains and losses are not. For example, although the changes in clearing margins need not necessarily be passed on to customers, buyers of options could be permitted to margin the premium. If futures-style margining were adopted, all option positions would be marked to the market, and gains and losses on those positions would be transferred at least on a daily basis. Any options margin system which transfers cash daily would significantly change current contractual obligations and may pose new risks. Currently, the purchaser of an option who does not use the value of the option for collateral does not pose any financial risks to clearing organizations or clearing members because the entire premium due with respect to that position is paid in full the morning after acquiring the option. Until the option holder exercises the option (to buy or sell), the holder has no obligation with respect to

that position. Although a futures style system would change this and also would alter the pricing of options, such a system could make cash flows between options and futures symmetrical and thus could have benefits.

Action item:

The practical impediments to and risk implications of modifications of option margin systems should be studied in light of potential liquidity gains that might be achieved. This study should focus on the desirability of experimenting with futures-style margining of options as part of the development of pilot programs for coordinated clearing of professional positions in stock index options and futures products.

C. Explore means of netting cash flows on a contractual basis. To a limited extent, netting occurs on the basis of clearing firms' use of a single bank as the settlement bank for more than one market in which such firm maintains offsetting positions.

Netting of settlements among clearing organizations may raise questions in the event of member defaults. Among other things, clearing organizations, clearing members and their bankers would need certainty concerning security interests to protect against financial losses due to member defaults and other questions with respect to the various rights of the parties to the netting arrangements. Nevertheless, the risks and benefits of netting cash flows on a contractual basis should be studied.

Action item:

The Working Group should encourage the SROs, in conjunction with clearing banks, to explore approaches to netting of payment obligations.

D. Shortening the five-day settlement time frame for routine transactions in corporate equity securities. Transactions in equity securities generally entail three distinct contracts: two contracts between broker-dealers and their customers -- the buyer, the seller and their broker-dealers -- and another contract between the buying and selling broker-dealers. Settlement between institutional customers and their broker-dealers generally occurs at securities depositories; settlement of contracts between

broker-dealers generally occurs through netting at clearing corporations (excess delivery or receipt obligations are settled through book-entry movements at securities depositories with payments at the clearing corporation).

Currently, transactions in corporate securities settle five business days after the trades are executed. This time-frame allows completion of tasks associated with settling those trades: inter-dealer trade comparison and, through stock clearing corporations, inter-dealer netting of delivery and payment obligations; dealer confirmation of trade terms to investors (particularly money managers acting on behalf of institutional investors); money manager acknowledgement of the trade and issuance of instructions to the institution's custodian bank concerning the delivery of securities and payment of funds; and settlement of the transaction between the dealer and the custodian bank through securities depositories. The vast majority of institutional trades in corporate securities (exceeding 90%) now settle within the five-day time frame, primarily because parties to these trades routinely use securities depository facilities for confirmation, affirmation and book-entry settlement of dealer-institutional transactions.

Establishing an earlier settlement time frame depends, among other things, on the ability of dealers, money managers and custodian banks to communicate trade terms and settlement instructions and respond to those communications quickly. Because many custodian banks and money managers access securities depositories through other institutions, communicating confirmation, affirmation and settlement data often requires two to three days. Accordingly, any significant reduction in settlement time frames would entail costs and changes to operational procedures but these costs and changes should be evaluated relative to the potential benefits of reduced settlement time-frames.

Action item:

The New York Stock Exchange, National Association of Securities Dealers, the American Stock Exchange, clearing organizations and market participants should identify costs and benefits of

an earlier settlement time-frame and identify how a shorter time-frame can be implemented consistent with reducing clearing system exposure and facilitating coordinated clearing of equities, options and futures.

E. Integrated clearing of stock and related options and futures products. Currently, options contracts are cleared and settled at OCC, futures contracts and futures options con-tracts are cleared and settled at clearing organizations affiliated with or designated by contract markets trading specific futures products; and securities transactions are cleared and settled at interfaced clearing corporations and securities depositories. Existing clearing organizations serve the needs of the stock, options, and futures markets and allocate default and credit risks differently to meet the requirements of those markets.

Consolidation of clearing systems would raise substantial questions regarding CFTC/SEC customer segregation requirements and bankruptcy law treatment of commodities and securities positions. For example, SEC segregation requirements may have to be augmented or CFTC requirements diminished in order to integrate the two systems.

However, consolidation of stock and derivative market clearing organizations may offer potential for reduced cash flows and simplified payment and operational procedures. Whether consolidation would reduce risk through central control of positions or increase risk because of concentration of positions is unclear. Asynchronous settlement time-frames, different margin procedures and distinct clearing organization responsibilities with respect to issuer-based as opposed to exchange-based instruments, as well as concerns for competition among clearing organizations, raise questions as to the cost-effectiveness of consolidation of stock and derivative clearing facilities. Consolidated clearing of related futures and options positions may raise somewhat different questions.

Action item:

Futures and securities clearing organizations should identify costs and benefits of integrated clearing and determine how integrated clearing could be achieved. This analysis may be facilitated by data generated by any

cross-margining or netting pilot programs established by futures and option clearing organizations. The SEC and CFTC should monitor the progress of these studies and address public interest and competitive issues that any proposals for integrated clearing may raise.

IV. Refine Relevant Legal Frameworks

The Working Group also identified several aspects of existing legal frameworks that should be reviewed to assure that a lack of uniform or coordinated legal standards does not increase market uncertainty or reduce the security of clearing and settlement systems.

A. Develop bankruptcy framework for FCM/broker-dealers. Currently, different bankruptcy frameworks apply to insolvencies of FCMs and those of securities broker-dealers. In view of the substantial intermarket trading activities of certain dual registrants, a uniform or integrated bankruptcy framework for such entities may be desirable. Development of such a bankruptcy framework for dual registrants could be accomplished through coordinated rule-making by the SEC and the CFTC if the SEC were granted rule-making authority comparable to that of the CFTC to define customer property and to determine other matters relevant to broker-dealer bankruptcy distributions.

Action item:

The CFTC and SEC should review existing bankruptcy laws and regulations to formulate a coordinated approach toward FCM/broker-dealer bankruptcies and identify areas requiring legislative action.

B. Consider harmonizing state commercial laws to establish uniform transfer, delivery and pledge requirements for options and uncertificated securities. The laws of the various states do not have uniform requirements for transfers and pledges of options, and transfers and pledges of certificated and uncertificated stocks. State requirements are set forth in commercial statutes (adapted from Articles 8 and 9 of the Uniform Commercial Code) that vary significantly from jurisdiction to jurisdiction. Approximately 25 states do not have statutory standards recognizing uncertificated securities. Judicial interpretation of those laws also varies among states, and determining which law to apply in multi-state transactions can often be difficult. If the substantial legal obstacles

can be overcome, investors, market professionals and their lenders should have a single, clear set of rules for the transfer and pledge of securities, similar to those being developed by the United States Treasury Department for trans-actions in United States Government Securities.

Action Item:

Consideration should be given to whether legislation authorizing the appropriate regulators to establish federal rules for the transfer and pledge of stock and securities options would be desirable.

APPENDIX E

Market Reform Actions Taken (or Planned) by Federal Agencies, Self-Regulatory Organizations, Clearing Agencies, and Market Participants as of May 16, 1988

I. Federal Agencies

A. Securities and Exchange Commission (SEC)

Actions by the SEC--Extensive Study of the Market Break and Recommendations for Market Reform

- On February 2, 1988, the SEC published a staff study prepared by its Division of Market Regulation entitled The October 1987 Market Break. This study detailed, among other things, the role of program trading in the market break; the capacity of the self-regulatory organizations (SROs) to meet the volume and other demands placed on their trading systems by the heightened volatility; and an analysis of market break related investor complaints. This study also contained recommendations for market reform on both an individual exchange basis and across all markets.

- Thereafter, pursuant to recommendations made by the Commission and staff, the Commission engaged in a continuing dialogue with the SROs to encourage SRO action in the following areas:

  - increased operational capacity through order handling system enhancements;

  - increased market liquidity through new specialist capital requirements and the development of new trading techniques;

  - increased financial integrity of market participants through, for example, increases in derivative market margins and reassessment of the manner and timing of variation margin calls;

  - improvements in post-execution trade processing; and

  - enhanced clearing agency safeguards against member default.

Actions by the SEC--Coordination Efforts

- Coordination of inter-market issues with the Commodity Futures Trading Commission, Federal Reserve Board, and the Department of the Treasury.

- Contingency planning with the other regulators and the SROs.

- Coordination of international issues with foreign regulators; meetings with officials of the Japanese Ministry of Finance, the Tokyo Stock Exchange (February 1988), the Department of Trade and Industry, Securities Investment Board, and the International Stock Exchange of the United Kingdom and the Republic of Ireland Ltd. (March 1988) to discuss the global impact of market volatility.

Actions by the SEC--Surveillance Data

- The Commission believes that the collection and dissemination of market, information related to program trading is necessary for the detection of frontrunning (both intra- and inter-market) and is of vital importance in maintaining market integrity. Toward this end, consideration is being given to proposals that would require securities traders to report large transactions to the Commission.

- The SEC has also suggested to the New York Stock Exchange (NYSE) that it give consideration to augmenting its audit trail procedure to obtain by electronic means the identity of member firms' customers. Currently, the NYSE audit trail tracks the time of stock executions and the brokers involved in the trade, but requests for customer names must be made separately to member firms.

Actions by the SEC--Systems Enhancements

- The SEC has reviewed plans by the securities SROs to increase the capacity of their order routing and execution systems to handle the volume of message traffic experienced on October 19 and 20.

- The Commission is reviewing stress tests of SRO order routing and execution systems.

B. Commodity Futures Trading Commission (CFTC)

Actions by the CFTC--Financial Integrity of Futures Markets

- Since the October market break, the CFTC has completed four studies of futures activity during October, 1987; made recommendations to futures SROs concerning program

enhancements to strengthen protections in volatile markets; monitored SRO progress in responding to the CFTC recommendations; initiated improvements in its own data collection processes and data bases; coordinated and consulted with other federal regulatory agencies in addressing contingency planning and other post-market break responses; and communicated with foreign regulators to promote information-sharing and cross-border financial surveillance.

Post-Market Break Studies

- Following October 19, the CFTC thoroughly assessed the operation of regulatory and self-regulatory financial protection systems during the market break. The staff's preliminary conclusions were summarized in the Interim Report on Stock Index Futures and Cash Market Activity During October 1987, which was prepared on an expedited basis and presented to the Commission on November 9, 1987.

- Subsequently, the CFTC developed additional data concerning the financial impact of the October market break upon futures firms and futures customers. The staff's findings based upon this data were summarized in its Follow-up Report on Financial Oversight of Stock Index Futures and Cash Market Activity During October 1987. Although the CFTC staff concluded that the financial safeguards of the futures markets operated effectively during the market break, aspects of financial systems that could be strengthened to provide added protection against extreme volatility were identified.

- Separately, the CFTC staff reviewed October 20, 1987 trading in the Major Market Index futures contract on the Chicago Board of Trade and found no reasonable basis for concluding that manipulative activity had occurred.

- The CFTC staff's Final Report on October 1987 futures market events was issued in January 1988. In addition to providing a detailed analysis of futures trading activity during the relevant period, the Final Report set forth recommendations for additional system enhancements to facilitate more effective financial and market surveillance.

Post-Market Break Recommendations

- While the CFTC's staff reports reflect that existing regulatory and self-regulatory protections functioned effectively during October 1987, the CFTC has carefully reviewed SRO programs as well as its own systems, to identify areas in which each can be strengthened to assure that it remains effective even in highly volatile markets.

The CFTC staff initiated this process directly following the market break, writing to all futures exchanges and clearing organizations on November 12, 1987, to request that they review existing programs and consider potential enhancements to provide added protection against future periods of volatility. The staff preliminarily identified seven program areas for SRO consideration. Subsequently, the CFTC staff reviewed these recommendations with the Joint Audit Committee, a coordinating group on which all futures exchanges and clearing organizations are represented and formulated additional recommendations for SRO program improvements, which are more fully set forth in the CFTC's post-market staff reports. In brief, the CFTC staff has recommended:

- Expedited implementation of the pay and collect data-sharing system. Culminating efforts that were commenced well before the market break, the futures SROs entered into an agreement on October 21, 1987, for the routine, electronic exchange of pay and collect data with respect to dual and multiple clearing members. The CFTC staff recommended implementing this system on a priority basis.

- Clarification of legal relationships between clearing organizations and banks. To assure the unimpeded flow of variation margin payments between clearing organizations and clearing firms, the CFTC staff recommended that the legal relationships between clearing organizations and clearing banks be clarified to establish the irrevocability of clearing bank confirmations of variation margin payments in the daily settlement process.

- Intra-day margin calls. The CFTC staff recommended increased use of intra-day margin calls on a routine basis to enhance the capacity of the settlement system to function smoothly in times of extreme volatility.

- Integration of market and financial surveillance data. the CFTC staff recommended that the SROs, all of which now have large-trader systems, give priority consideration to enhancement of their computer systems to integrate large-trader data into their financial surveillance systems on an automated basis.

- Intra-month capital compliance systems. The CFTC staff recommended that the SROs review the feasibility of enhancing their audit programs to ensure that their member firms have the capability to monitor and maintain continuous capital compliance.

- Lines of Credit. The CFTC staff recommended that firms be required to provide confirmation to their SROs of the availability of and any conditions to their existing lines of credit and that all firms be required to have adequate local banking relationships.

- Internal controls by member firms over guaranteed floor traders. The CFTC staff encouraged the SROs to review the capacity of their member firms to control their exposure as guarantors of floor traders.

- Review and consider enhancement of margin security against risks of extreme volatility. The CFTC staff recommended that the SROs review the adequacy of margin levels to assure that there is an appropriate cushion against aberrant price spikes and extreme volatility.

o The CFTC has actively monitored the activities of the futures SROs in response to these recommendations and encouraged enhanced coordination among futures exchanges, securities exchanges, and clearing banks involved in the futures and securities settlement processes. As Part II of this summary reflects, the futures SROs have effected many system improvements since the market break which respond to recommendations by the CFTC and have taken steps toward more formal inter-market coordination.

Enhancement of CFTC Data and Surveillance Systems

o Following the market break, the Commission initiated efforts to improve its own data systems to provide more complete and timely data for analysis in the event of continued volatility in the stock market and to enhance its financial surveillance data base.

o Trade identification. Each futures exchange currently maintains a daily record of each trade (trade register) which contains certain identifying information. This information includes the name of the firm clearing the trade and a customer-type indicator (CTI) that shows the type of account for which the trade was executed. The CFTC staff is exploring ways to use this daily record of trades to identify more rapidly and accurately specific types of transactions involving both futures and stock trades, such as index arbitrage.

  - In the short run, consideration is being given to requiring additional CTI codes for stock index futures transactions to identify various types of transactions.

- For the longer term, the Commission is exploring with the exchanges and futures commission merchants (FCMs) changes and additions to account-number information.

o With respect to the CFTC's large-trader reporting system, the Commission staff has implemented a special identification system for trading institutional accounts. The staff is also reviewing the levels at which the positions of large traders in stock index futures are currently reported to the Commission in terms of the proportion of open interest represented by reporting traders and the number of traders being reported.

o Financial surveillance data systems. The Commission staff is also exploring ways in which data currently collected and used by the CFTC and the futures exchanges for market and financial surveillance can be refined to enhance financial surveillance. Specifically, the CFTC staff is developing refinements of the Commission's existing large-trader and clearing member data base to produce aggregate position data for all futures markets. Aggregate position data could be made available to exchanges and other regulators during periods of volatile markets, and, once established, such a system could provide a model for data systems that would reflect all market exposures, including domestic and foreign securities positions.

The CFTC is also exploring development of a centralized computer data base for financial information relating to FCMs. The Commission currently maintains financial information filed by the FCMs in hard copy and computerizes a limited amount of such data. The Commission contemplates development of a computer data base that would be accessible to the SRO financial surveillance staffs as well as to the Commission.

Coordination With Other Regulators

o The CFTC has consulted extensively with the SEC, the Federal Reserve Board, and the Department of the Treasury to address inter-market coordination and contingency planning issues raised by the market break.

International Coordination

o The CFTC is coordinating with foreign regulators in a number of areas, including financial surveillance and information sharing:

- The Securities and Investments Board has proposed that a lead regulator be designated for firms operating in the United States and the United Kingdom. The CFTC has

responded in writing to this proposal following discussions between the CFTC and SRO officials and discussion of the issue by the Joint Audit Committee. The CFTC is also coordinating with the SEC on this matter.

- Information sharing meetings have been held with officials in England, Japan, France, Singapore, Canada, Australia, and Switzerland.

Frontrunning

- o At the direction of the CFTC staff, all exchanges that trade stock index futures are reviewing rules relevant to frontrunning. Each exchange has indicated that it would interpret frontrunning as a violation of existing rules relating to just and equitable principles of trade. The CFTC and the futures exchanges are participating in a subgroup of the Intermarket Surveillance Group formed to discuss intermarket frontrunning and other intermarket offenses. The exchanges and the CFTC are also working toward unified standards and interpretations of frontrunning with the securities exchanges and appropriate information-sharing to facilitate surveillance, as well as considering the possibility of a regulation establishing a more specific futures industry standard for the prohibition of intermarket frontrunning activity involving transactions on futures exchanges.

Customer Complaints

- o The Commission investigated the number and kinds of customer complaints filed with respect to stock index futures activity during the October market break. The futures exchanges which trade stock index products, the National Futures Association (NFA) and the CFTC's reparation forum, reported a total of only 35 customer complaints relating to stock index trading on futures exchanges during the period October 16-23, 1987.

C. Federal Reserve Board

- o In conjunction with the other federal bank regulatory agencies, the FRB conducted interviews with the major banking organizations to determine their lending policies and practices during the market crisis.

- o The FRB reviewed the functioning of Fedwire and daylight overdraft caps and is continuing to evaluate the hours of operation of Fedwire, and to assess the costs and benefits of potential changes.

- The FRB has continued contingency planning for market emergencies, including co-ordination with the other regulators.

D. Treasury Department

- Closely monitor financial market developments, promote better communication and coordination among the agencies, and work through the Working Group to correct market weaknesses.

II. Self-Regulatory Organizations and Clearing Agencies SEC Oversight:

A. New York Stock Exchange (NYSE) Specialist System

- The NYSE has reallocated the stocks of J.P. Morgan and Co., Gould, Inc., Neiman-Marcus Group, Carter-Wallace, Inc., and Pansophic Systems, Inc., away from six specialist units.

- There may be additional disciplinary actions resulting from the week of October 19th, and, when appropriate, additional stocks will be taken away from other specialists that fail to meet Exchange standards.

- The SEC has approved revisions to NYSE Rule 103A concerning evaluation of specialist performance. The revised rule establishes, among other things, specific objective standards for measuring specialist performance in the areas of specialists' Designated Order Turnaround (DOT) system order handling and reporting, timely opening of securities, handling of administrative message traffic and market share. See Securities Exchange Act Release No. 25681, May 9, 1988. The development of additional specialist performance standards utilizing objective measures is currently being considered.

- The NYSE Board of Directors on April 7 approved a proposal to enhance their procedures for allocating stocks to specialist units. The NYSE expects to submit the proposal to the Commission shortly.

- The SEC has approved an NYSE proposal to increase specialist capital requirements, as an interim measure, to the greater of $1 million from $100,000 or 25% of the trading unit position requirements, which would be increased to three times their current levels. (For example, the current 5,000 share position requirement for common stock has been increased to 15,000 shares.) See Securities Exchange Act Release No. 25677, May 6, 1988.

- The NYSE has increased its monitoring of both specialists' capital and positions by requiring that such information be filed with the NYSE by 9:00 a.m. daily.

- The NYSE is exploring the need for specialists to maintain additional lines of credit and other lending arrangements.

- Over the next several weeks, the NYSE staff will meet with a number of its largest member firms to discuss their credit and banking arrangements, including the number and types of banking relationships and efforts to obtain other financing.

- In an effort to attract more capital, the NYSE has revised its Rule 98 to suspend temporarily a prohibition on securities underwriting firms acquiring specialists. The proposed rule change has been filed with the SEC for approval.

Initiatives To Increase Trading Capacity

- In November 1987, the DOT's system's memory was increased and several of the system's data files were separated to allow more efficient processing. Further system enhancements are scheduled to be completed by July 1988 to improve DOT's processing capability even more.

- In January 1988, program changes were completed in the Limit Order System to reduce system bottlenecks discovered during the October market break. A major upgrade of the system with more efficient computers was completed in March 1988, resulting in a 40 percent increase in capacity.

- The NYSE had begun to completely replace its Automated Pricing and Reporting System prior to October 1987, but only a small fraction of the new system was operational by the week of the 19th. An entirely new system was completed on February 22, 1988.

- The ability of the NYSE's Universal Floor Device Controller to store and process data has been increased. To add additional capacity, major portions of data normally routed through the Universal Floor Device Controller are being re-routed to other systems, a process that will be completed by the end of June 1988.

  A problem associated with the Universal Floor Device Controller during the week of October 19th was a backlog of orders directed to printers on the trading floor. On January 18, 1988, the NYSE opened its expanded Blue Room, adding 30 more high speed printers for an increase of 20 percent. Seventeen more high speed printers were added to the trading floor in March 1988. In addition, the NYSE

currently is working to double the speed of all existing printers.

At the same time, the NYSE also has increased the number of electronic display books on the trading floor by over 85 percent, reducing the overall need for printers. In addition, it has tripled the number of stocks on display books, an increase of over 140 percent since October 19th, so that currently there are approximately 1,251 stocks on 373 display books.

- The capacity of the NYSE's Post Support System to store and process orders has been increased through the use of additional computer power for the system.

- Enhancements in the NYSE's Universal Floor Device Controller and its printers currently underway will reduce the potential for delays in the Exchange's link with the Intermarket Trading System (ITS).

- As of November 1987, the computers running the Consolidated Tape System have been replaced. As a result, the Consolidated Tape System now has the capacity to process efficiently a peak volume in excess of 600 million shares.

- Computer enhancements were made to the As-Of-Status-System on October 24th and 25th, 1987.

- On a broader scale, the NYSE is planning to have the capacity to handle a peak of 600 million shares by June of this year, and it believes that if it were to experience a 600-million-share day now, it would be able to process it with significantly fewer delays than the Exchange experienced last October.

- On Saturday, April 30, 1988, the NYSE conducted a test of its 11 computer systems to determine whether the systems could process adequately 600 million shares in one day. Preliminarily, the NYSE was very satisfied with the test results; the NYSE is currently analyzing the data generated by the test.

- Beyond this, the NYSE is planning to have the capacity by late 1989 to process a billion shares.

- The NYSE recently announced the formation of an Operations Advisory Committee, headed by NYSE President Robert Birnbaum and made up of experts in trading operations from member firms of various sizes. The purpose of the Committee is to evaluate problems encountered during peak processing periods and to recommend synchronized corrective actions that would enhance the entire process.

- In March the NYSE established a Pension Managers Advisory Committee in order to help make the NYSE more aware of the investment needs of fund managers and help keep the fund managers better informed of the system capabilities of the Exchange now and in the future.

- Last January, the NYSE formed an Individual Investor Advisory Committee to serve as a liaison between individual shareholders and the NYSE Board to enhance communications between individual investors and the Exchange. Its charter is to advise the Board on policies and programs that affect individual investors in equities, options, futures and fixed income securities.

- The NYSE is initiating an independent audit of its trading systems by an outside firm every 12 to 18 months to enhance the system's proper operation. As the audits are conducted, the NYSE is going to share the findings with the SEC.

Program Trading

- The NYSE required, as of May 15, the daily submission of information relevant to all program trading activity engaged in by its members or member organizations either on a proprietary or agency basis.

- A new procedure is being implemented by the NYSE to enable it to identify accurately all types of trading, including program trading.

Circuit Breakers

- In early February, the NYSE adopted a procedure and proposed a rule to the SEC to take index arbitrage out of its automated order routing system whenever the Dow Jones Industrial Average moves 50 points up or down from the previous day's close. The NYSE's proposal was approved by the SEC on a six-month pilot basis on April 19, 1988, See Securities Exchange Act Release No. 26699, 53 FR 13371.

  The NYSE is working toward a proposal that could provide for a coordinated all-market circuit breaker in the event of a precipitous market decline. The Exchange is hopeful that agreement on this issue can be reached in the near future.

Frontrunning

- The NYSE has sent a letter to its members stating that inter-market frontrunning -- or trading futures contracts to profit on knowledge of impending orders in the stock market -- may violate just and equitable principles of

trade, and could be a violation of the Exchange's trading rules. See NYSE Information Memo No. 88-9, April 13, 1988.

In addition, the NYSE plans to provide the futures exchanges with audit-trail information on stock trading that would enable the Chicago futures markets to conduct ongoing surveillance for front-running. See NYSE Information Memo, April 21, 1988.

Environmental Impact Statement

- The NYSE Chairman Phelan has proposed development of a financial version of an environmental impact statement that can provide guidance, or even an early warning, regarding the potential consequences of new financial instruments, new trading technologies and new forms of risk management.

Communications

- On January 11th, the heads of several SROs met at the NYSE to discuss a variety of methods to improve communications. Similar meetings involving all equities futures and options exchanges were also held on February 24th, March 24th and May 3rd.

- The NYSE also is supporting a proposal to include the stock index futures as associate members of the Intermarket Surveillance Group (ISG), which provides access to an integrated database of inter-market surveillance instruments.

  The NYSE is also heading up a sub-group of the ISG to better identify inter-market trading violations and promote information sharing.

  - On April 5th, there was a meeting of all the members of the ISG. The stock index futures contract markets attended that meeting, and the CFTC participated as an observer.

Compared Trades

- The NYSE is working on (1) a shortened comparison cycle, and (2) an on-line automated Questioned Trade process. The exchange is developing an electronic Floor Derived Comparison (FDC) system to accomplish these objectives. The NYSE plans to implement FDC in three phases during 1988. The NYSE and the American Stock Exchange report that they have been working closely on these projects with the National Securities Clearing Corporation (NSCC), the Securities Industry Automation Committee (SIAC), and others.

The NYSE intends to amend its rules by May 1989 to require its members to resolve all trades by the evening of the day after trade-date.

B. American Stock Exchange (Amex)

Surveillance Technology

- In 1986, the Amex began in 1986 a broad effort to upgrade surveillance technology. These efforts run the spectrum from on-line, intraday market monitoring to post-trade tools for investigations. In the last year, the Amex has implemented:
  - A new StockWatch system to monitor trade-by-trade activity for comparison versus historic trading patterns.
  - An Amex Trade Information Center (ATIC) for more efficient data gathering for ad hoc investigations.
  - A NewsAlert system that uses voice synthesis to notify market operations personnel of listed company announcements that may require trading halts.
  - A DowScan system that reads all the Dow stories and captures those that are related to Amex listed equity options for later reference by surveillance analysts.
  - A new capability to monitor electronically trading for Rule 193 ("Chinese Wall") violations by firms engaging in specialist activities.
  - Systems to monitor automatically option trading for front running, mini-manipulation, pegging and capping.
- In 1988 and 1989, the development program will expand to include:
  - An expert system that uses artificial intelligence software to analyze potential insider trading market and manipulation cases and estimate the likelihood that a case will eventually result in charges. This will allow surveillance analysts to handle case loads more accurately and productively.
  - An upgrade of ATIC software and hardware to include a relational database and network access to Intermarket Surveillance Group files. This will reduce the amount of time required to build up case information during investigations.

- An OptionWatch system to duplicate for options the services provided by StockWatch for equities.

Specialist Performance

- The Commission is currently considering an Amex proposal that would require that non-regulatory trading halts, or a reopening following a non-regulatory halt, be approved by a Floor Governor or Exchange Official. Currently, only the approval of a Floor Official or, in some instances, a Floor Governor, is required in such situations. The Amex is also considering making the same change for approval of gap openings beyond specified limits.

- In addition, the Exchange is currently considering a mandatory requirement that all specialists prepare a form indicating the pre-halt condition of the specialist's book and any orders represented in the trading crowd prior to and subsequent to any halt in trading. This form would be submitted for the Floor Official's review prior to any stoppage, resumption of trading for gap openings beyond specified limits so that a speedy analysis could be made of specialist pricing, timing and proprietary trading activity. It could be subsequently used by Exchange staff for surveillance purposes. Currently, the use of such forms by specialists is optional.

- The Amex has examined trading in every security traded on the exchange during the market break period. To date, the Amex's review of specialist performance has resulted in the reallocation of two stocks from two specialist units.

Capital Requirements

- The Amex has thoroughly reviewed the current capital requirements for specialists under Amex Rule 171, and is in the process of detailed analytical work on a proposal to its board to increase specialist capital requirements.

- Based on a review of its system of specialist capital surveillance, the Amex concludes that several changes should be made in routine surveillance procedures as well as in monitoring during periods of market turbulence.

  The Amex is intensifying surveillance through the following action:

  - requiring firms' clearing specialist accounts to provide, on a daily basis, standardized account information for specialists and traders. For dual members this would include account statements, or a summary thereof, for trading activity on other

exchanges where they are members. Standardizing the information received and obtaining it for positions other than the Amex will eliminate reporting gaps that currently impede overall evaluation of specialist financial condition;

- requiring daily information from self-clearing specialists who now are subject to monthly reporting. Because most of these specialists are designated to the NYSE for financial oversight, the Amex will develop a plan for obtaining and sharing information on dual members; and

- closely monitoring the effects of increased capital requirements following their implementation to determine whether higher standards create a need for additional capital to maintain a comfortable cushion over early warning levels;

o During times when closer monitoring becomes necessary, the Amex is considering requiring specialists identified as most susceptible to damage to provide daily position and profit and loss estimates shortly after the close of business. The Amex is also prepared to dispatch examiners to review specialists' books and records, on a daily basis if needed, to obtain information not otherwise available.

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Market Operations

o The Amex is working with those specialists who have touch screen execution (AutoPer) terminals located behind them to provide space to relocate the terminals in front.

o In addition, the Amex is in the process of redesigning the AutoPer screen to eliminate the need, in some instances, to use an additional page to complete execution of an order. The redesigned screen will permit specialists to execute orders even more quickly and reduce the possibility of having orders printed and being executed out of sequence.

o Finally, a pilot program is underway with respect to the implementation of an electronic book that will provide smoother integration of AutoPer and booked limit orders.

o A committee composed of representatives of the Amex, NYSE and NSCC has been formed to explore the possibility of shortening the comparison cycle with the intent of increasing the amount of time available to process "don't knows" (DKs) and "questionable trades" (QTs) by one full day. The Amex is also developing systems to allow same-day floor-derived points of sale comparison for equities and options. It is well into the design phase of this system

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and plans to implement the first stage in the last quarter of 1988.

- As a result of an extensive review of the events of the week of October 19 from an equity comparison standpoint, several proposed enhancements to the NSCC Equity Comparison System are being considered.

Inter-market Trading System

- The Exchange is examining ways to upgrade order delivery systems to improve the capacity of the Amex's systems to execute all orders, including ITS commitments. The Amex, and other exchanges, are in the process of implementing such upgrades, and believe such developments will permit execution, under reasonably anticipated high volume conditions, incoming ITS commitments in a timely manner.

- The Amex specialists generally have used ITS Plan pre-opening application procedures following both regulatory and imbalance trading halts. The Amex would support an initiative by ITS participants to apply uniform pre-opening procedures following both these trading halt situations.

- The Amex supports defining procedures for communication among the exchanges and identifying an ITS contact person in each market who will be available during market emergencies.

Options

- The Exchange has adopted a policy of delisting selected series of puts and calls within an options class when no open interest exists.

- The Amex is considering the possibility of using its authority in the event of another dramatic market break to introduce new strike prices only at levels immediately surrounding the market price of the underlying stock or index. In such situations, as the market in the particular underlying instrument turns around, new strikes could be introduced to fill in the gaps between those added earlier and current levels. The Amex is carefully examining the possibility of modifying its policy in this manner, and plans to discuss it with the appropriate Exchange committees when its analysis is complete.

- The Exchange has a number of proposals currently awaiting SEC approval which will expand the use of the Amex's automated execution system (AutoEx). These proposals include the use of AutoEx in select equity options on a full-time basis. See File Nos. SR-Amex-88-6 and Amex-88-9.

It is the Exchange's intention, upon approval of these proposals, to broaden Registered Options Trade (ROT) participation in a variety of ways, including allowing ROTs to 1) sign on the AutoEx system at any time during the day; 2) choose whether they will participate in either calls, puts or both; and 3) participate on the AutoEx system for more than one option (provided the ROT is able to be considered in the trading crowd for each option).

The Amex is seeking ways in which to improve both the speed and quality of opening rotations.

- The Amex is examining the feasibility of introducing an opening rotation in the Major Market Index that would allow for the opening and free trading of the more actively traded options series in a more timely fashion than afforded by the current system. The more actively traded series are generally the near term months with strikes at or near the money. The proposed rotation would allow for first opening those options which qualify for AutoEx. Immediately upon completing the opening rotation in these strike prices, they would become available for free trading.

- Additionally, the AutoEx system would be turned on simultaneously with free trading. This would allow for all AutoEx qualified orders (currently market orders or executable limit orders of 10 contracts or less) entered via the Amex automated system to receive instantaneous execution.

The benefits are that more actively traded options would be opened and free traded on a more timely basis. Because of the time reduction, disproportionate changes in opening sale prices and next sale prices should be reduced, and AutoEx would be available sooner than currently possible. If this proposal proves to be more efficient than current methods, the feasibility of using this system floor-wide can be examined.

- The Amex proposes to monitor closely and review option specialists' participation each month, with an increased emphasis on specialists' performance in maintaining tight, liquid markets.

- Despite the difficulties of using traditional performance measures for derivative markets, the Exchange's review of the market break has caused the Amex staff to begin consideration of more formal standards. The Amex believes that such guidelines should be based primarily on quote spread differentials, and that a determination of unsatisfactory performance on this basis should lead quickly

to the imposition of appropriate sanctions, up to and including reallocation.

- The Amex is also considering the feasibility of imposing a modified firm quote policy in options. Under such a policy, option specialists would be expected to disseminate timely quotations markets that reflect actual market conditions with consideration given to supply and demand in the trading crowd. Both of these initiatives must be fully reviewed and adopted by committees and the Exchange Board prior to implementation.

- A special study of the Major Market Index (XMI) specialist and ROT performance for trade date October 20 was undertaken by the Exchange and has been completed.

- The Exchange reviewed and compiled customer complaints and all materials associated with XMI trading, including options journals, cash index values, MMI Futures trading time and sales, component stock data and other relevant documentation. This review involved a number of meetings and a special study regarding volatility in XMI and the Major Market Index generally.

  The Performance Committee determined that a number of put executions -- specifically, those that occurred at a volatility factor exceeding 325 -- were improperly priced, and that, with respect to those executions, the Unit's performance was unsatisfactory. The Committee severely admonished the specialist unit for substandard performance and advised it that any recurrence of inadequate performance in XMI would leave the Committee with no alternative other than to consider strongly reallocation. The Committee instructed the specialist to develop a plan to ensure adequate performance in the future.

- Consistent with the Performance Committee's action, the XMI specialist and member firms representing customer executions that exceeded the volatility factor have been negotiating adjustments. These negotiations are continuing.

- As a result of the October market break, margin requirements for broad-based index options were increased effective November 2, 1987. See Securities Exchange Act Release No. 25081, 52 FR 42751. The Exchange subsequently filed a proposal to increase further the margin on broad-based index options and equity options. See File No. SR-Amex-88-12, noticed in Securities Exchange Act Release No. 25646, May 3, 1988.

- The Exchange believes that margin action dealing with changes in price volatility levels of stocks and indexes

underlying options could be better dealt with if Exchanges were given authority to adjust margin levels above an SEC-approved floor without the necessity of filing for rule changes as is the current practice.

C. National Association of Securities Dealers (NASD)

- The NASD has responded to problems encountered during the market break by proposing a number of initiatives:
  - raising the penalty for unexcused withdrawals by market makers from the National Association of Securities Dealers Automated Quotation (NASDAQ) system;
  - requiring all NASDAQ/NMS market makers to participate in Small Order Execution System (SOES);
  - providing that SOES executions will continue in an Over the Counter (OTC)/National Market system security when quotes are locked or crossed;
  - eliminating preferencing of market makers in the SOES when a locked or crossed market exists;
  - establishing the Order Confirmation Transaction (OCT) service that will permit firms to access market makers through NASDAQ without voice contact. See Securities Exchange Act Release No. 25263 January 11, 1988, 53 FR 1430 (granting accelerated approval for 90 days.)
- The NASD states that its hotline, which at present can be used to contact 50 of the largest market makers, remains in place and continues to be part of its routine operational procedures, including apprising market makers whose quotes are locked or crossed that they must take remedial action.
- The NASD agrees with the Commission's suggestion that the NASD review with broker-dealers the desirability of establishing diverse lending relationships with a number of banks, as well as the feasibility of obtaining more committed lines of credit than currently exist. The NASD will discuss these suggestions with its members.
- During and after the week of October 19, the NASD expanded the hours of operation of its Trade Acceptance and Reconciliation Service (TARS) which allowed firms quickly to reduce the number of uncompared transactions. See Securities Exchange Act Release No. 25088, November 3, 1987, 52 FR 43141.
- The NASD closely monitored the adequacy of capital of its

member firms during the period of the market crisis to assure their continuing liquidity.

- The NASD has in place a substantial customer complaint investigation program and will investigate and take disciplinary action where appropriate in response to these complaints.

- The NASD agrees with the SEC's suggestion that the SROs accelerate their efforts to generate same-day compared trades, thereby enabling members to know their positions and market exposure before trading commences the next day. The NASD plans an Automatic Confirmation Transaction System that, together with the SOES, Order Confirmation Transaction service, and the on-line TARS, would provide an almost total same-day comparison capability for the NASDAQ market. The NASD also filed, and the SEC approved, a rule change that requires all NASD members to use TARS. See Securities Exchange Act Release No. 25595, April 18, 1988, 53 FR 93370.

- The SEC has granted the NASD the authority to halt OTC trading of NYSE-listed and Amex-listed securities when an important news announcement is made, thus matching the authority of the NYSE and the Amex. Current rules permit the NASD to halt only the dissemination of stock quotations pending a news announcement.

D. Regional Exchanges

Contingency Planning and Information Sharing

- The Pacific Stock Exchange ("PSE") has established a Contingency Planning Task force. The Task Force's primary objective is to improve both internal and external communications when a market disruption occurs. This includes formalizing internal procedures to communicate effectively within the staff and with other markets, the SEC, members and public customers, the news media and the general public. The PSE also sponsored a meeting with the other regional markets on March 28 to discuss, among other things, specialist capital requirements, inter-market trading systems performance, communication linkages and contingency planning for market emergencies.

Specialist Performance

- Four regional stock exchanges, the Cincinnati Stock Exchange ("CSE"), Midwest Stock Exchange ("MSE"), Philadelphia Stock Exchange ("Phlx"), and PSE, have examined individual specialist performance during the market break and have not identified any questionable actions that would require disciplinary actions or reallocation proceedings.

These exchanges note that they have not received any formal complaints regarding specialist performance during the market break.

- The Boston Stock Exchange ("BSE") is currently investigating one matter that relates indirectly to the market break.

- Individually, the NSE supports the development of objective, relative standards to evaluate specialists and will be filing with the Commission, in the near future, a new set of criteria for specialist evaluation based on a relative standard of performance.

- The PSE is currently examining the market making obligations of regional specialists and has agreed to explore this issue with each of the other regional markets.

Improved Systems

- The BSE does not currently have an automated routing and execution system. The BSE, however, is in the process of developing the BEACON system -- Boston Exchange Automated Communications and Order-Routing Network. The BSE expects that when BEACON is in place it will be able to process at least 10 million shares per day, which is approximately three times the BSE's current average daily volume. The BSE expects the BEACON to be fully operational by year end.

- The CSE has been in the process of implementing major hardware and software improvements to its trading system to accommodate volume surges and higher volume levels. The CSE states that the implementation of these enhancements is progressing expeditiously at this time and should increase capacity by approximately 50%. The CSE believes these enhancements will enable it to process volume such as occurred during the week of October 19 without any problem or delay.

- The NSE has increased the capacity of its automated order execution system (MAX) system from 36,000 trades per day to 54,000 trades, a 50% increase, since the market break. According to the NSE, this increase means that, assuming a normal mix of orders, its system could process, with no delays or problems, the volume of orders experienced during the market break. Additional changes are being implemented through June 30, 1988, that will increase capacity further to 60,000 trades. The NSE also has developed a "performance management measurement methodology" to improve NSE capacity forecasting and obtain increased capacity with their

current systems on an as needed basis. Both staff and software tools have been added to implement this program throughout 1988.

- The Phlx estimates the capacity of its automated order execution system (PACE) has been increased from approximately 12,500 orders per day to 17,000-17,500 orders per day since the market break. The Phlx states that further enhancements that are expected to be in place by June 1988 should increase system capacity to over 20,000 orders per day without queuing. The Phlx also has accelerated its plans to replace its current computer system for PACE by year end. The Phlx estimates this change will increase capacity to 40,000 orders per day and will allow the Phlx to handle its anticipated share of volume on an 800 million to 1 billion share day. Further, when its new computer system is in place the Phlx believes it will be able to increase capacity to accommodate volume surges with less than 24 hour turnaround time. The Phlx conducted a series of tests on PACE's capacity after these improvements were made.

- The Phlx has also made modifications that permit automatic reporting to continue when the automatic execution feature of the system is disengaged. This will allow the Phlx to switch to manual execution of orders, which was done on October 20-22, without encountering the reporting delays that occurred at that time.

- The Phlx has also increased the capacity of its CENTRAMART System, which processes incoming quotation and transaction information, by approximately 20% since the market break. By year-end, computer enhancements should increase CENTRAMART capacity to the 800 million to 1 billion share level and allow additional capacity to be added quickly when needed.

- The PSE states that it has doubled the capacity of its automated execution system (SCOREX) since the market break to 50,000 messages per day. "Messages" would include incoming orders, order status report requests, and order cancellations. On October 19 and 20 SCOREX received 47,000 messages per day. The PSE achieved this increased capacity primarily by adding two additional data communications lines between the San Francisco and Los Angeles trading floors, which expanded capacity of this component of the system by 50%. The PSE believes that with this increased capacity it would now be able to handle the volume levels experienced during the October market break without problems. The PSE notes that further enhancements still underway, such as the elimination of unnecessary trade and quote data received from SIAC and the possible addition of two communication

processors, should provide reserve capacity to accommodate even higher volume levels. Finally, the PSE expects that its on-going computer replacement project, to be completed within the next two years, will increase capacity to 100,000 messages per day. On March 5, 1988, the PSE conducted a test of SCOREX capacity. The PSE has hired an independent consultant to examine and verify the test results.

Contingency Plans for Dealing with Unusual Volume

- The BSE has stated that once it has implemented the BEACON system, it also will create a back-up system. As to training, floor operations personnel currently trained to supplement floor brokerage functions will also be trained in the BEACON system. The BSE non-floor personnel also are trained in a variety of clerical floor functions.

- The CSE has upgraded its staff with more qualified employees to improve overall competence. The CSE also notes it is continually reviewing and upgrading the quality of its back-up systems.

- In 1988, the MSE intends to improve back-up capabilities including a communications link between the MSE and large member firms and service vendors. Further back-up capabilities are being planned for future years. The MSE is also developing a contingency capacity fall back plan for 1988 that will identify any non-essential MAX activity that could be eliminated during unusual volume surges to accommodate more volume.

- The MSE also has developed a program to train upstairs personnel to supplement floor staff in "volume breakout situations." The staff will be trained in Trade Input and MAX customer interface functions. The MSE procedures provide for the additional staff to be on the trading floor within 15 minutes when needed.

- The Phlx believes that it currently has adequate back-up personnel at all levels including data processing, operations and marketing/customer communications. In addition, the Phlx notes that the PACE system will have two important back-up systems when the computer changes noted above are implemented by year end. First, all computer functions will be performed in duplicate and cross-checked so that any system breakdown will be detected immediately. Second, because the new computers are modular, additional temporary capacity can be added within a day.

- The PSE is refining its contingency plans to re-route orders manually to floor booths if its other enhancements prove

insufficient at a particular time. The PSE also has formed a working group to plan the training of staff to meet the requirements of market disaster, such as providing relief for regular staff. A list of former options staff who have assumed other responsibilities at the exchange is regularly updated and these employees will be receiving refresher courses. Other staff will be trained in equities floor operations and receive regular training updates to supplement the equity floors when needed.

Improved Communications with Retail Firms

- The BSE intends to notify the BEACON users of delays and other system problems through administrative messages, supplemented by direct contact with member firms. In addition, the BSE has recently appointed a new officer who, among other things, will be responsible for improving communications with member firms.

- The CSE has made certain improvements, including a direct line to retail firms, to expedite communication concerning system problems and delays.

- The MSE recently has implemented procedures to shorten the amount of time it takes to notify retial firms of problems or changes to MAX by both administrative message and telephone. Under the procedures, the MSE will first notify firms of problems, delays or changes to MAX through administrative message and will follow-up with phone calls to the firms.

- The Phlx has developed procedures to ensure there is adequate notice to PACE users and Phlx marketing personnel of any changes to system execution parameters.

- The PSE currently is upgrading and formulating its current procedures for contacting retail firms when system operational problems or delays occur. The PSE will also be notifying SCOREX users that during periods of extremely heavy volume the automatic execution feature may be disengaged to enable additional "throughput". Both firms and the SEC would be notified prior to any actual disengagement of the automatic execution features.

Improved Coordination between Exchanges Concerning Problems with Small Order Systems

- The CSE states it is committed to timely communication, by both telephone and administrative message, with other markets on problems with CSE systems.

- The MSE has implemented the procedures necessary to use the ITS broadcast administrative message capability at the SIAC to notify other Exchanges of problems or shut-down of small order systems, as agreed upon with the other exchanges.

- The PSE is contacting other exchanges to explore the development of better communications among the markets during a market break. The PSE believes better SRO communications and coordination of activities for the benefit of the market as a whole would be particularly beneficial concerning the exchanges' automatic execution systems.

Intermarket Trading System Improvements

- The exchanges unanimously agreed that developing pre-opening procedures that would apply after order imbalance halts was of great importance to the efficient operation of ITS. Several exchanges noted that they would initiate the proposal at the next meeting of ITS representatives.

- At the last ITS Operating Committee meeting in early February, the communication issue was discussed and all exchanges agreed to designate the operating committee member as the contact person for each exchange. The contact person in turn was to designate a back-up person and communicate the information to the other participants. Furthermore, each participant is to provide current names and phone numbers for key members familiar with ITS operation and policy.

- The CSE further recommended that the ITS Operating Committee identify certain situations that adversely impact the effective operation of ITS and develop procedures for decision-making in such situations.

Specialist Capital

- The Phlx, MSE and PSE are currently reviewing the adequacy of their respective specialists' capital.

- The BSE, effective December 31, 1987, increased specialists' equity capital requirements from $80,000 to $100,000 and effective June 30, 1988, will increase the requirements to $125,000.

- The MSE is studying requiring specialists to file financial reports on a more timely basis (from quarterly to monthly for self-clearing specialists and from annually to quarterly for introducing specialists). The MSE is developing a mechanism to review specialists' inventory positions on an intra-day basis, rather than on an overnight basis only.

- The PSE believes that its existing procedures worked effectively during the market break. The PSE is reviewing specialist capital surveillance systems to determine if they capture in a timely manner all the desired information for adequate monitoring. Based on the current status of the review, it appears that some modifications to the current daily reports and monitoring process will be implemented.

- The MSE and the Midwest Clearing Corporation (MCC) are reviewing the possibility of imposing higher capital requirements on self-clearing specialists firms.

- The PSE will consider whether to require higher capital for specialists that do not have bank credit lines.

- The CSE states that requiring lines of credit or higher capital requirements for dealers without such accommodations is an issue that needs further review. The CSE will soon file a proposed rule change that will establish an optional minimum net liquidating equity requirement for those dealers who do no customer business and maintain letters of guarantee with CSE clearing members.

Options

- The Phlx and other OPRA participants have worked and will continue to work with vendors to address current capacity problems, plan for future capacity expansion, increase message capacity, and devise contingency plans for potential future problems.

- The Phlx received SEC approval to implement its options order routing system, the Automatic Options Market System, as a 90-day pilot program, on March 31, 1988. See Securities Exchange Act Release No. 25540, 53 FR 11390.

- The PSE indicated that present margin levels, for index and equity options, may not be adequate as permanent standards and expressed its willingness to join other exchanges and the SEC in further reviewing margin levels. The PSE submitted a proposal to increase index and equity option margin requirements that was noticed in Securities Exchange Act Release No. 25666 May 5, 1988.

- The Phlx notes that it currently is working with the other options exchanges to value the adequacy of stock and index option margin levels. The Phlx concludes from a preliminary review of trading data that current margin levels are adequate to ensure credit worthiness and performance of obligations even during periods of increased market

volatility on the scale of last October. According to the Phlx, serious consideration should be given, however, to whether current margin levels are adequate to avoid excess speculation or curb excess market volatility. The PSE submitted a proposal to increase index and equity option margin requirements that was noticed in Securities Exchange Act Release No. 25679 May 9, 1988.

E. Chicago Board Options Exchange (CBOE)

Circuit Breakers

- The CBOE is considering policies to limit the addition of new strike prices for both stock and index options during periods of extreme volatility. In particular, the CBOE would limit new series to those necessary to bracket the prevailing index value or underlying stock price and to a limited number of new series farther in- or out-of-the-money. The CBOE believes that further study is required to define the scale of market volatility that would trigger implementation of this policy and to determine appropriate emergency strike price increments.

Systems

- The CBOE is evaluating methods to ensure high levels of market maker participation in its automated execution system (RAES) during volatile periods. Efforts are focused on reducing disincentives to continued participation in RAES and establishing sanctions for leaving the system. To that end, the CBOE has submitted a proposed rule change that will give the CBOE authority to require market maker participation in RAES in designated equity options classes and in the Standard & Poor's 500 index option (SPX) through the next following expiration. See Securities Exchange Act Release Nos. 25620 April 27, 1988 and 25621 April 27, 1988.

- The CBOE has recently submitted a proposed rule change to clarify that market maker performance includes participation in and support for Exchange-sponsored automated programs, including RAES and Auto Quote. See Securities Exchange Act Release No. 25570 April 11, 1988.

- The CBOE has communicated with vendors that experienced capacity problems during the market break and has advised them to delete less active option series as necessary.

- The CBOE has been reviewing its opening rotation procedures since last October. Since December, the Standard and Poor's 100 index options (OEX) opening has been informally modified by dividing OEX series into three groups that are opened separately and simultaneously. See Securities Exchange Act

Release No. 25627 April 29, 1988. According to the CBOE, these procedures, combined with recent low volume and volatility levels, have resulted in opening rotations of not longer than 10 to 15 minutes. In February, the CBOE Board of Directors approved in principle a plan to divide OEX into seven zones, six of which would be opened simultaneously with one or more lead market makers charged with establishing opening prices and facilitating imbalances. The CBOE is working with Commission staff to develop an exchange rule filing that would implement this measure.

- The CBOE also received approval from the SEC of a proposed rule change providing that trading may be halted and the opening rotation in index options delayed when unusual market conditions exist. See Securities Exchange Act Release No. 25600 April 19, 1988, 53 FR 13458.

- The CBOE also has plans to test hand-held radio communication terminals that would enable trade data input and comparison to be accomplished at the time of the trade. The current system compares trades in the evening after trading closes.

Market Maker Performance

o The CBOE's Market Performance Committee is examining the adequacy of the CBOE's rules relating to market obligations. In particular, the CBOE is examining its policies respecting modification of these rules during unusual market conditions. The CBOE is focusing on determining which rules should be waived during unusual market conditions and whether back-up rules should be imposed to ensure that orders are handled fairly and efficiently during market stress periods.

o A special panel of CBOE members and persons associated with CBOE members firms has reviewed October 20, 1987 OEX pricing. The panel report characterized options pricing on the morning of the 20th as "extreme but understandable in light of the chaos and extreme volatility then prevailing in all markets." The CBOE notes that as a "goodwill gesture" it will make refunds to member firms based on the difference between the premiums actually paid by public customers for certain November OEX options during the market break and the prices they would have paid if premiums had been based on an implied volatility of 300. The total amount to be paid (approximately $1.2 million) will be recovered by assessing a voluntary fee of $.01 per contract on market makers' future OEX transactions. As a result of a number of customer and member firm complaints, the CBOE regulatory staff also is reviewing market maker performance during the

market break, with special emphasis on October 30. The CBOE expects to complete this review in the near future.

Margin Levels

- The CBOE has been reviewing the adequacy of index and equity option margin levels and suitability standards in consultation with major retail firms, other options markets, and the Commission. At its February meeting, the CBOE Board of Directors decided to retain the current "Premium plus" margin methodology and to increase the "add-on" component of such margin calculation from 10 to 15 percent for index options and from 15 to 20 percent for equity options. The minimum margin for out-of-the-money options (both index and equity) would be increased to 10 percent. The CBOE proposes to conduct more frequent monitoring of the adequacy of these margin levels. The CBOE is also considering imposing a minimum equity requirement for accounts approved to write naked short options, straddles, and combinations. These minimums could be established as part of additional suitability guidelines, which currently are under review by the CBOE and other options exchanges. The CBOE filed proposals to increase margin requirements for index and equity options that were noticed in Securities Exchange Act Release Nos. 25552 April 7, 1988, and 25600 April 21, 1988.

F. Options Price Reporting Authority

- Within two or three days of the market break most vendors had expanded their files sufficiently to make their systems current with each exchange as to all existing options series.

- Representatives of the Options Price Reporting Authority (OPRA) Technical Committee immediately began to design system modifications that will allow the announcement of new series through computer formatted messages. Such modifications will in turn enable vendors to implement computer programs to automatically add these new series to their systems, eliminating the time-consuming and error-prone process of transcribing the administrative messages that is currently used. The Committee reached agreement on the message type at a meeting on December 9th, and implementation of the system modifications is expected to be completed this summer.

- An arrangement has been decided upon whereby OPRA will regularly update the vendor/user committee of the

Information Industry Association on volume and capacity projections to assist the vendor community in its efforts to have facilities keep pace with growth and provide for unexpected spikes in activity.

G. Clearing Agencies

- The National Securities Clearing Corporation (NSCC), Depository Trust Company (DTC) and the Options Clearing Corporation (OCC) support the reconvening of the Monitoring Coordination Group (MCG) for purposes recommended in the SEC Report. The NSCC further has suggested, among other things, that: (1) each participant provide to the Commission in advance of the first meeting a list of areas where the events of October 1987 might have shown improvement as a result of better inter-clearing agency and Designated Examining Authority (DEA) cooperation; (2) each participant provide the SEC with an emergency call list that it will update; and (3) the MCG be chartered, provided an administrator, required to meet at least quarterly and provide annual reports to the SEC. The MCG met at the SEC on April 26, 1988, and agreed to meet again in Chicago on May 25, 1988.

- The NSCC has analyzed daily marks-to-the-market of guaranteed trades prior to settlement in connection with its earlier trade guarantee. The NSCC believes that daily marks would pose financial difficulties for NSCC members, because NSCC members would be required to fund those marks themselves for customers that customarily are not required to pay for securities until delivery under "delivery versus payment" arrangements. The NSCC is enhancing its ability to monitor and collect marks by establishing daily computerized reporting of parameter breaks that will be available within two to three months. If a parameter is crossed the NSCC will collect an immediate mark from the member through an increased clearing fund deposit.

  The NSCC and DTC indicate that the idea of cross-liens on joint assets of clearing agencies is worth exploring further. The NSCC suggested bringing the matter before the MCG, and the DTC advised consultations with bankruptcy experts on possible legal ramifications. The OCC intends to study the concept of cross-liens as part of its Special Study of the OCC's systems.

- As a general matter, the OCC has undertaken a special study of its systems, which will include eight broad areas for review, including those identified in the SEC Staff's Report. The objective of the OCC's study is to identify any structural weaknesses or areas that can be improved. The OCC's margin committee has commissioned a sub-committee,

including margin committee members and industry representatives, which will complete the study over the next three months.

- As part of the special study noted above, the OCC will address, among other things, the failure of H. B. Shaine and Company. While the OCC believes its margin and concentration monitoring systems worked well during the October market break, it also believes further examination is warranted, particularly where concentrations exist in the form of uncovered short positions and directly affect the financial strength of a member.

- The OCC has been considering increasing its net capital requirements and will analyze the costs and benefits of such increases as part of its study. Although the OCC believes that strengthening its capital requirements could provide significant risk reduction benefits, the OCC notes that currently its monitoring system recognizes an OCC member's net capital as a limiting factor in the amount of risk a member can pose to the OCC.

- The OCC has improved the process by which intra-day variation margin calls are issued. System enhancements have shortened the time needed to issue calls from an original 30-45 minutes to a maximum of 15 minutes. The OCC has also shortened the time for delivery of debit instructions to clearing banks. The OCC also is investigating the possibility of automating the transmittal of call instructions to clearing banks, which, if effected, would further reduce the time needed to issue calls.

- The OCC believes that its monitoring system worked extremely well during the market break. The OCC, however, intends to review its monitoring system as part of its study. The OCC also believes that improvements should be made in the sharing of information among the OCC and commodities clearing organizations. Currently, the OCC is negotiating an agreement whereby the OCC would join commodities clearing organizations in a centralized system that would collect and disseminate pay and collect information concerning firms that belong to multiple clearing organizations.

- The OCC agrees that improvements should be made in the options money settlement process and recently has discussed this subject with several OCC clearing banks. The OCC, among other things, has: (1) begun investigating whether banks can be given earlier notice of settlement instructions; (2) completed startup of providing facsimile notification of settlement instructions with one clearing bank; and (3) undertaken an examination of banking and legal issues concerning the OCC's ability to make timely payment

to members in the event of default or delay by other members, including examination of the OCC's use of its clearing funds and bank lines of credit.

- The OCC supports expanded use of its pledge program and believes greater use of that program could improve liquidity. The OCC notes, however, that it is in the process of requesting the Federal Reserve Board to consider expansion of current regulations concerning loan values of options positions. The OCC also states that it would be willing to explore with the DTC whether combined reports covering options and securities positions could be provided to banking institutions.

CFTC Oversight:

Chicago Mercantile Exchange (CME)

Chicago Board of Trade (CBT)

New York Futures Exchange (NYFE)

Kansas City Board of Trade (KCBT)

Clearing Agencies

Actions by Exchanges and Clearing Agencies--Financial Integrity of Futures Markets

- Since October 19, 1987, the CFTC has monitored the actions of futures exchanges in response to its post market break recommendations. The actions summarized below, which include actions responsive to the CFTC's recommendations as well as independent actions of the SROs, should enhance the financial security of the futures markets, particularly in periods of high volatility, and advance related objectives, such as increasing the efficiency of and coordination among clearing and settlement facilities.

- Margin pay and collect data-sharing system. In accordance with previous CFTC staff recommendations, as of October 21, 1987, all futures exchanges and clearing organizations had entered into a formal agreement for the routine, electronic exchange of margin pay and collect data with respect to dual and multiple clearing members. The system is now operational for 90 percent of futures market volume. Planned enhancements include securities options premium data from the OCC, securities data from the NSCC, and surplus margin data.

- Clarification of contractual relationships between clearing organizations and clearing banks. Meetings have been held

among the interested parties and regulators. The Chicago Mercantile Exchange (CME) Clearing House, the Chicago Board of Trade Clearing Corporation (BOTCC) and the OCC are currently reviewing draft agreements designed to afford additional clarity and standardization in this area.

o Measures to increase, as appropriate, the security afforded by the margin system against aberrant price spikes and extreme volatility. In accordance with the CFTC recommendations to review margins, CME margins on the Standard & Poor's 500 futures contract have been increased to $19,000 speculative initial margin ($10,000 maintenance margin and initial hedge margin). The CME also has established a policy of resetting its initial speculative margins for stock index futures to approximately 15 percent of the value of the contract on a quarterly basis. Chicago Board of Trade (CBT) margins on the Major Market Index (MMI) futures contract have also been increased, to $15,000 initial speculative margin ($10,000 for maintenance margin and for hedge positions).

- The CME Clearing House has taken a number of measures to enhance its security and liquidity. The Clearing House is in the process of acquiring a $250 million line of credit to be used in the event of a clearing firm default. The CME has also adopted a rule change to increase clearing members' security deposits (which are standing security in addition to margin deposits). The rule is designed to increase the available pool of security deposits from $4.5 million to $42 million. The CME also has a common-bond system that provides for the allocation among its clearing members of any loss to the Clearing House caused by a default. The aggregate capital of all Exchange firms is approximately $17 billion.

  The CME has also adopted rules requiring the parent company of a CME clearing member to guarantee losses on non-customer positions carried by such clearing member.

- The CME has proposed a rule change to impose additional financial requirements on clearing member firms maintaining 16 or more branch offices or a combination of 32 or more branch offices and guaranteed introducing brokers. As of May 6, 1988, each CME member firm is required to have at least two memberships in each CME division, or a total of at least six memberships.

- The CME has submitted a rule proposal designed to establish a margin system for option positions that more effectively identifies positions that carry

greater risk and should, therefore, incur higher margins. This new option margin system, which was submitted to the Commission in early February, is currently under review. The BOTCC has also taken action with regard to option margins, increasing the amount of margin collected for deep out-of-the-money options.

- Standardized margin deposits. In January 1988 the CME conformed instruments considered acceptable as margin with other major U.S. clearing organizations by accepting U.S. Treasury notes and bonds in addition to Treasury bills for margin deposits. This should reduce the possibility of financial gridlock by expanding what is acceptable as margin.

- Increased use of intra-day margin calls. The CME has adopted a rule amendment to facilitate implementation of a new policy of its Board of Governors to make intra-day margin calls on a daily basis when a specified dollar threshold is crossed and to pay out gains as well as collect payments for losses on an intra-day basis. In March 1988, the CME began making routine intra-day calls for settlement variation. The CME procedures for intra-day collection and payment of variation margin now provide for issuance of intra-day calls for settlement variation to any clearing member owing more than $500,000 and for intra-day payments of up to 80 percent of gains when $1 million or more is owed a clearing member.

  - The CME and BOTCC have now coordinated intra-day pay and collect procedures. The CME is holding discussions with the OCC in order to further standardize procedures.

  - The BOTCC, which had a pre-existing policy of making routine intra-day margin calls based on the open interest at the previous day's close, adopted additional margin collection procedures following the October market events to enhance its margin collection process. Under these new procedures, the previous evening's trades and all trades submitted to the BOTCC by approximately 1:30 p.m. each day are matched, and appropriate variation margins are collected by 2:30 p.m. each day on all open positions as of 2:00 p.m. In addition, the BOTCC established procedures to ensure that afternoon variation margin payments are paid to a clearing member only if the clearing member's required margins, based on intra-day positions, are sufficient to cover the newly calculated risk of those positions. These rules have helped to make it easier to handle

high volumes of margin flows on volatile days since October.

- Enhanced clearing and settlement bank financial data. The CME has organized a roundtable discussion forum to facilitate better coordination, information-sharing, and contingency planning among participants in clearing settlement processes. Members include representatives of the BOTCC, OCC, Federal Reserve Bank of Chicago, CFTC, SEC, the four clearing banks used by the BOTCC and the CME Clearing House, NSCC, the DTC and New York settlement banks. Two meetings have been held thus far, and additional meetings are planned.

  The CME also hosted a meeting on Friday, March 25, 1988, for financial surveillance staff representing the CBT, BOTCC, the NASD, NFA, NSCC, the International Securities Clearing Corp., the CBOE, Amex, OCC, KCBT, and the NYSE.

  Among other things, participants reviewed what additional information should be shared routinely and during emergencies and discussed the CME's existing audit plan for emergency situations. The NYSE hosted the next meeting of this group.

- Integration of market and financial surveillance data. The CFTC staff recommended that futures SROs, all of which now have large-trader reporting systems, give priority consideration to enhancing their computer systems to integrate large-trader data into their financial surveillance systems on an automated basis. In response to these recommendations, a number of SROs stated that they either had such systems or would consider program enhancements to do so. For example, the BOTCC reported that it currently has such a system and the CME Clearing House has since augmented its risk management procedures to refine it surveillance data.

- Clearing member capital. The CME has stated that it intends to enhance the security of its Clearing House by establishing additional minimum capital prerequisites for membership in the CME Clearing House.

- Trading capacity. Most futures markets appear to be capable of clearing twice the number of transactions that they currently clear. For example, as a result of recent enhancements to their computer capability to meet the Commission's audit trail requirements, the Chicago exchanges (CME and CBT) have clearance systems capable of handling as much as two and one-half times the current number of transactions. The exchanges monitor the volume of transactions throughout the day, and if there are

indications of heavier-than-usual volume, emergency procedures can be put into effect. These procedures are generally designed to ensure that clearing firms submit trade data to the clearing organization more quickly throughout the day to process the increased volume on a timely basis. Longer processing hours by the exchanges and the clearing firms may also be required in such circumstances.

Most New York futures exchanges also have the capacity to handle above-average volume.

The largest New York exchange, in terms of volume, the New York Mercantile Exchange (NYMEX), has experienced significant growth over the last few years, almost doubling its volume on a year-to-year basis. The NYMEX average volume is approximately 130,000 contracts per day so far this year. The exchange has previously handled 300,000 contracts in a single day and is working towards being able to accommodate as many as 1 million contracts per day. NYMEX also plans to implement an on-line system later this year which will allow brokers to verify and correct the details of trades during the day.

The Commodity Exchange, Inc. (COMEX) is in the process of implementing a new clearing system which, when implemented, should increase its ability to handle high volume.

In a continuing effort to further improve the processing of orders at the exchange level, the CBT has funded and is actively working to implement an automated order entry system that would permit orders to be entered electronically from terminals at member firms and quotation vendors. The CBT expects to introduce the system next year.

- Circuit Breakers. On October 19, 1987, there were no price limits in effect for any actively traded stock index futures contract. By October 23, however, the CME, NYFE, and KCBT, by emergency actions, had put into effect price fluctuation limits for their actively traded stock index contracts. The fourth exchange with stock index futures trading activity, the CBT, did not implement limits on an emergency basis. Subsequently, the CFTC approved permanent limits for the CBT's, CME's, and KCBT's actively traded stock index contracts. More recently, both the CME and CBT proposed further rule amendments that were approved by the Commission in February 1988. (The emergency action taken by NYFE in mid-October regarding price limits expired in January, and no permanent rules have been implemented to replace those limits for the NYSE Composite futures contract.)

On March 29, 1988, the CFTC approved CME rules establishing opening range price limits in the Standard & Poor's futures contract. Specifically, the rule provides that there shall be no trading during the opening range of 10 minutes at a price more than 5.00 index points above or below the previous day's settlement price. In addition, the rules provide for a two-minute trading halt under certain circumstances.

The CFTC also approved the CME rules to provide for a trading halt in options on the Standard & Poor's 500 futures contract when the Standard & Poor's 500 futures contract is limit bid or offer at the opening range price limit; or trading in the futures contract has been halted as set forth above.

o Trade Practice Review. The CME has participated in various ISG matters over the last three years. Recently, there have been three special meetings at which the focus has been on inter-market abuses, including frontrunning, between the futures and security exchanges. These discussions are ongoing to enhance inter-market surveillance efforts.

- The CME recently indicated expressly that its existing rules would prohibit a member from frontrunning a customer's securities or options order in futures or option equity index contracts. On May 4, 1988, the CME Board reviewed a draft of this interpretation in written form, and intends to solicit comment thereon from its members shortly.

- Inter-market meetings also have been held to improve coordination and communications among the various related exchanges in the area of trading and market information. The first such meeting occurred on Wednesday, February 24, 1988, at the NYSE; the second one took place at the CBOE on Thursday, March 25, 1988; and the third occurred on Tuesday, May 3, 1988, at the Pacific Stock Exchange. The purpose of these meetings is to:

  -- Enhance the type of information that the NYSE disseminates regarding the percentage of stocks open, those in which trading has been halted or delayed, bid/ask indications, etc.

  -- Establish an inter-exchange hotline linking the various trading floors and board rooms for the exchange of non-standard information;

  -- Identify what other types of information should be exchanged among the various parties; and

DEPARTMENT OF THE TREASURY
WASHINGTON

UNDER SECRETARY

August 3, 1988

Dear Senator Proxmire:

In my testimony before your committee in May I included an exhibit which indicated that the volatility of daily stock price movements since January 1988 has returned to historically normal levels. Chairman Ruder, in his testimony, and you, in your opening remarks, challenged this observation. Consequently, I asked Michael Darby, Assistant Secretary for Economic Policy, to investigate this issue further. Enclosed is his analysis.

Because the analysis is easily understood, let me just summarize its conclusions. Two measures of actual and a measure of expected inter-day volatility plus a measure of intra-day volatility all reveal the same picture. That is, while volatility in October was extraordinary and remained high (from an historical perspective) during November, December and January, it has returned to historically normal levels since January. Furthermore, there is little or no evidence that the advent and rise of derivative instruments and other technological and institutional changes during the 1980s had any discernable augmenting effect on stock-price volatility before October 1987. Hence, banning or constraining program trading, index arbitrage activity or the use of portfolio insurance or raising required margins will not be effective ways to dampen the level of volatility.

Some volatility is a natural consequence of markets adjusting to changes in fundamental factors. The analysis presented here indicates that the events of October 1987 have not had any permanent elevating impact on volatility, either actual or perceived. Hence, pursuing policies aimed at dampening volatility will most likely be ineffective and probably would do more harm than good.

Sincerely,

George D. Gould
Under Secretary

The Honorable William Proxmire
United States Senate
Washington, DC 20510

Enclosure

7/27/88

Daily Stock Price Volatility

Responding to an inquiry about the future course of stock prices, a Wall Street sage noted that they would fluctuate. Because of the nature of free markets, equity prices inherently fluctuate and so some degree of volatility in stock prices is normal. In principle, this normal level of volatility may change over time not only as the scope and frequency of underlying fundamental factors change but also because of changes in technology, procedures and the institutional makeup of equities markets.

This paper presents alternative measures of volatility, examines their recent behavior, and draws some conclusions concerning whether increased volatility occurred in the 1980s in face of the rise of derivative markets and other technological and institutional changes and whether the events of last October have had an apparent permanent elevating effect on volatility. Our basic results can be summarized as follows: There has been no discernable trend either up or down in daily stock price volatility during the 1970s and 1980s, although October 1987 stands out as a month of uniquely high volatility. Furthermore, volatility during 1988 appears to have returned to historically normal levels.

The paper first examines alternative historical measures of observed daily stock price volatility. Next, market measures of expected volatility are considered. Counter-arguments of the SEC are then analyzed. Finally, conclusions are drawn.

I. Alternative Measures of Actual Volatility

Volatility can be measured in numerous ways. In this section we measure ex post volatility, i.e., volatility that has already occurred. The basic unit of analysis here is the percentage change in daily closing prices in either the Standard & Poors (S&P) 500 Index or the New York Stock Exchange (NYSE) Composite Index. Use of percentage changes avoids the optical illusion inherent in talking about absolute point changes uncorrected for inflation and other factors which affect the general level of stock prices.[1/] The focus on change from one daily close to the next may miss some subtle differences in within day volatility which might be of concern to day traders, but should be an effective measure of market volatility for intermediate and longer term investors.

Figures 1 and 2 plot monthly averages of daily absolute percentage changes for the two indexes. (Absolute changes are measured without regard to sign.) The horizontal lines at about 0.2 and 1.1 percent represent a control range two standard

1/ The standard deviation of the percentage stock price change over one year is typically approximated by 15.9 to 19.1 times the standard deviation of daily price changes within the year. Thus, a daily standard deviation of 0.75 percent would be annualized as 11.9 to 14.3 percent.

deviations above and below the mean for the period 1971-1986. Monthly volatility observations between these lines fall in the range accounted for by normal statistical variability.[2] By this measure, relatively tranquil periods are noted in 1971-1972, 1977, and 1985 while 1974, 1975, 1980 and 1982, years of cyclical turning points in economic activity, displayed unusually high volatility. There was an extraordinarily large spike in October 1987 followed by relatively high, but not unprecedented, volatility in the next three months before a return to the normal range in February 1988.

Some statisticians prefer standard deviations to average absolute changes as a measure of variability. The standard deviation weighs large changes more heavily relative to small changes than does the average absolute deviation. Figures 3 and 4, which plot volatility since 1971 as measured by standard deviations, tell the same story as the previous charts.

II. A Measure of Expected Volatility

The two measures of volatility examined above are historical in nature. They do not reflect expectations of the future. It is possible that even through actual volatility has returned to historically normal levels, market participants may still anticipate higher than normal levels of volatility. While

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2/ A symmetric control range such as this probably includes a bit less than 95 percent of month-to-month variation because the monthly volatility measure is distributed with a long tail above the mean. That is, daily price movements are not exactly normally distributed.

expected volatility is unobservable, it is possible to calculate the implied expected volatility (of the prices of the underlying stock index futures) from the observed prices of options on stock index futures. This calculated implied volatility represents the market's collective expectation of the volatility of the prices of stock index futures over the life of the options contract. Like any expectation, this one may be incorrect. However, it cannot be systematically incorrect in efficient markets. Moreover, whether the expectation is correct is not important for this analysis. What is important is to ascertain whether the events of last October have affected the market's expectation of future volatility.

Figure 5 contains implied expected volatility calculations for the S&P 500 index futures (provided by Shearson Lehman Hutton) along with a 50-day backward-looking (as were the measures in the previous section) measure of actual volatility (measured by the standard deviation). Both series are annualized from daily data assuming a 252 business-day year.[3/] The figure indicates that expected volatility responded quite quickly to the events of last October. More importantly, expected volatility has subsided substantially during 1988, returning to levels consistent with the volatility anticipated in 1986 and in 1987 prior to October. In other words, market participants apparently do not expect the levels of volatility associated with late 1987 to be a permanent feature.

3/ That is, the annualized standard deviations are 15.9 times the corresponding standard deviations of daily price changes.

III. Comments on SEC Analysis

In testimony of May 24, 1988, before the Senate Committee on Banking, Housing, and Urban Affairs, Chairman Ruder made four points that purported to demonstrate that stock price volatility has not returned to relatively normal levels. Each point, however, is arguable.

The first point notes that two of the largest percentage declines in the Dow Jones Industrial Average (DJIA) in the last 25 years (excluding the October 1987 period) occurred on January 8, 1988, and on April 14, 1988. The implication appears to be that the mere existence of such large declines refutes the contention that volatility has returned to historically more normal levels. One cannot refute the conclusion drawn from 4 or 5 months of daily observations from only <u>two</u> isolated daily occurrences. Furthermore, these two events become "more normal" when one considers the economic news confronting the markets on those days. As noted above, daily volatility appears to have been highest around turning points in the business cycle. On the two days noted by the SEC, newly available economic "news" intensified the market's fear that inflation was about to return and interest rates to rise. In particular, the employment data for December, released on January 8, were much stronger than expected. Similarly, on April 14, the February merchandise trade balance was reported to have deteriorated more than expected with both export and import growth unexpectedly robust. The market interpreted these data as indicative of an overheating economy,

one that would generate higher interest rates in the future. Consequently, stock portfolios were revalued downward and prices fell quickly. Thus, these two events cannot be interpreted as indicative of some underlying higher level of market volatility, but simply as the market's timely and efficient response to significant economic news.

The SEC's second point is equally unsupported. It contends that intra-day volatility remains excessive. Again, this contention is not based on a thorough examination of the data, but on a generalization from two daily observations of intra-day price movements. Subsequent analysis of intra-day volatility for the S&P 500 (measured as the difference between the day's high and low as a percentage of the close) by the SEC's Office of Economic Analysis over the period January 1984 to May 1988 reveals a pattern that resembles the pattern of inter-day volatility. That is, intra-day volatility did increase significantly in October 1987 and remained at historically high levels through January 1988. Since January, however, intra-day volatility has declined to historically more normal levels. Finally, the SEC makes no explicit case for being concerned about intra-day stock price variation. Specifically, what are the costs associated with such variation?

The SEC's third point contends that the reduction in volatility that has occurred has been the result of institutional developments designed to reduce volatility, and hence, has not been a natural return to normalcy. Specifically, the SEC contends that the reduction in portfolio insurance activity, the

reduction in proprietary index arbitrage activity, the increase in futures margins levels, and the "DOT collar" have led to reduced volatility. Implicitly this assumes that increased use of portfolio insurance, increased arbitrage activity, higher margins, and the absence of a "DOT collar" all contributed to increased volatility. Here again, there is little empirical support that any of these events has intensified volatility. The historical evidence in figures 1-4 show no upward trend subsequent to the establishment of stock index futures in 1982. Furthermore, the Federal Reserve has performed an exhaustive study of arbitrage trading, program trading, and portfolio insurance on the daily volatility of stock prices--for both indexes and individual stocks--which was released in August 1987. The study concluded that: "This analysis provides little evidence that stock volatility has increased as the use of derivative instruments has expanded." Hence, because increased portfolio insurance and index arbitrage activity apparently did not contribute to increase volatility prior to October 1987, it is difficult to argue that reduction of these activities since October 1987 has played a role in reducing volatility during 1988.

The belief that margin levels affect volatility appears sacrosanct for many at the SEC. However, studies by the Federal Reserve and numerous academic economists do not support this belief. In fact, the majority of the evidence, especially for futures markets, tends to indicate that higher margins, by raising transactions cost and thereby producing thinner markets,

actually lead to a rise in volatility. Likewise, there is little or no evidence to support the efficacy of the "DOT collar" in reducing volatility. Indeed, the NYSE has recently indicated that the "DOT collar" has been ineffective and its use will soon be discontinued. Again, it is difficult to argue that higher margins and the "DOT collar" have dampened volatility given the evidence. Consequently, the developments enumerated by the SEC cannot be linked empirically with the observed reduction in volatility to historically normal levels.

Finally, and the fourth point made in the testimony, the SEC notes that volatility for the S&P 500 was higher in each month from October 1987 to May 1988 than the monthly average for the period 1971-1986. This was not a unique event, however. There were three other periods between 1971 and 1986 when monthly volatility exceeded the 1971-86 average for more than seven consecutive months (November 1973 to May 1975, May 1980 to March 1981, and May 1982 to March 1983). Furthermore, being higher is not sufficient in and of itself to denote a difference in volatility. Given that the measure of volatility (either the standard deviation or the average absolute deviation) is itself a random variable, one has to ascertain whether the difference between measured volatility in recent months and the 1971-86 average is statistically meaningful. For October, November, December, and January, that does appear to be the case. But, for February through May, the monthly volatility is not statistically

significantly different from the 1971-86 average. In other words, from a statistical point of view, volatility is indistinguishable from its historical norm since February.

IV. Summary and Conclusion

A close examination of daily stock price movements indicates that actual price volatility since early 1988 has returned to levels within the range of historical norms. Moreover, the market's implied measure of expected volatility has retreated to a range consistent with behavior in 1986 and pre-October 1987. Furthermore, attempts of the SEC to refute this analysis are unconvincing for a number of reasons. Hence, policies aimed at dampening volatility based on unsupported suppositions would be most ill-considered.

Figure 1

Volatility of S&P 500 Index

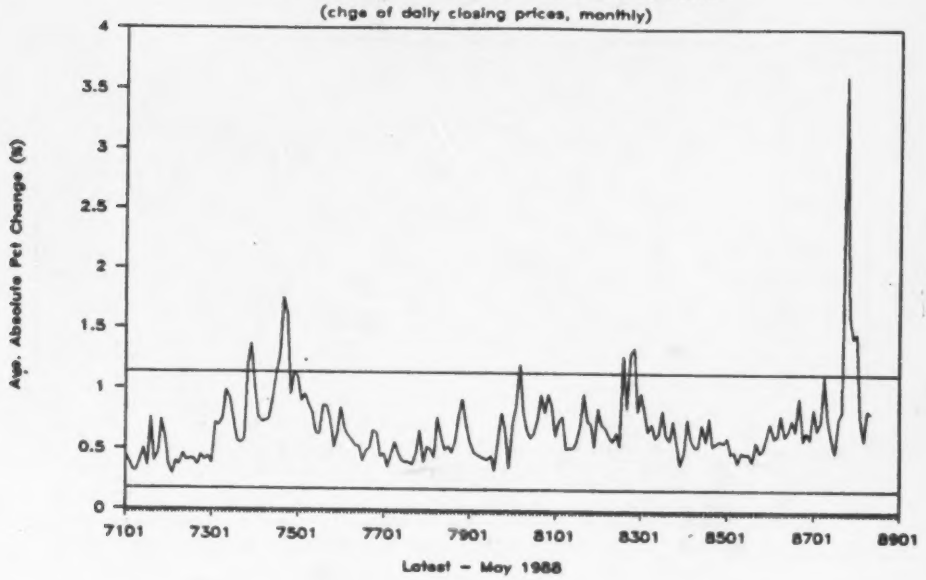
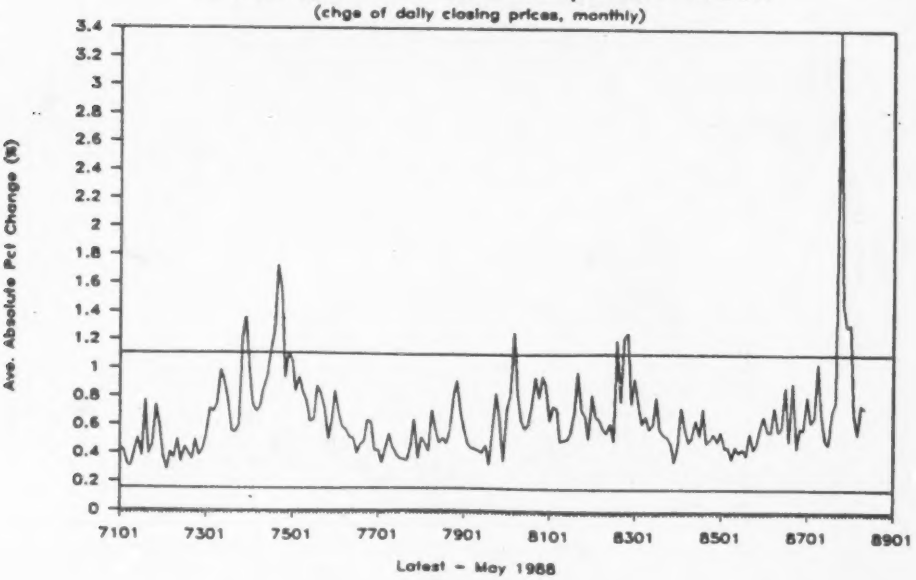


Figure 2

Volatility of NYSE Composite Index



-- Improve and standardize the manner in which financial data is displayed.

- The entities represented at these meetings include the Amex, CBOE, CBT, MSE, PSE, Phlx, NASD, KCBT, NYSE and the CME.

APPENDIX F

Working Group on Financial Markets

Participants

U.S. Department of the Treasury

George D. Gould
Charles O. Sethness
Michael R. Darby
Robert B. Zoellick
Gregory P. Wilson
Dallas S. Batten
Gordon Eastburn
Mark G. Bender
Gerald B. Hughes
Angelo Mascaro
Juhan Jaakson
Brian S. Tishuk

Federal Reserve System

Alan Greenspan
E. Gerald Corrigan
Donald Kohn
Michael Prell
Thomas Simpson
Martha Scanlon
Patrick M. Parkinson
Mark Warshawsky
Patricia White
Steven G. Thieke
Christopher McCurdy
Betsy White

Securities and Exchange Commission

David S. Ruder
Alden Adkins
Richard G. Ketchum
Brandon Becker
Mark D. Fitterman
Jonathan Kallman
Kenneth Lehn
Jeff Davis
Sandra A. Sciole

Commodity Futures Trading Commission

Wendy Gramm
Andrea Corcoran
Paula Tosini
Robert Mackay
Susan Ervin
Eugene Moriarity

Support Staff Provided by the U.S. Treasury Department

Linda Johnson
Betty Hunt
Annabella Mejia
LaSean Hudgens
Nancy Hawkins

Figure 3

VOLATILITY OF S & P 500 INDEX

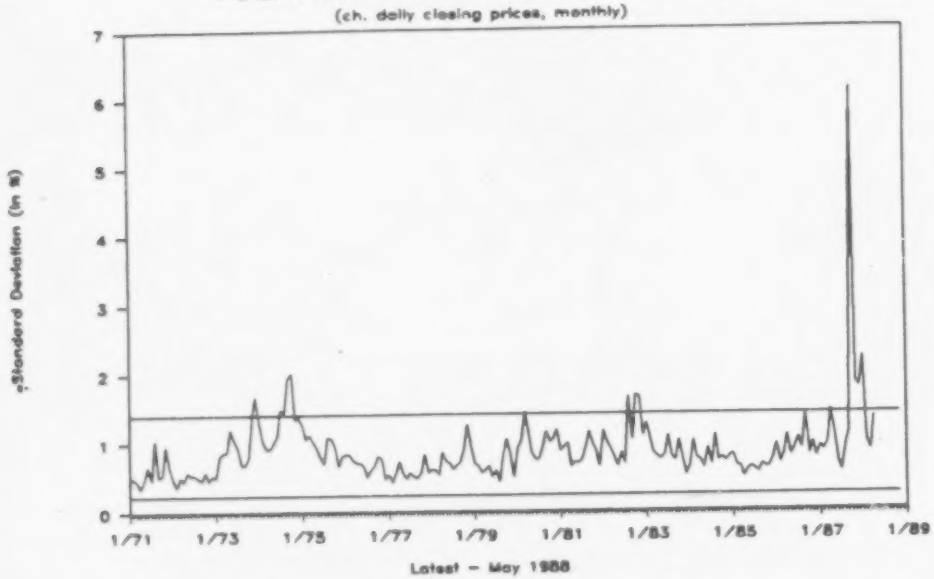


Figure 4

VOLATILITY OF NYSE COMPOSITE INDEX

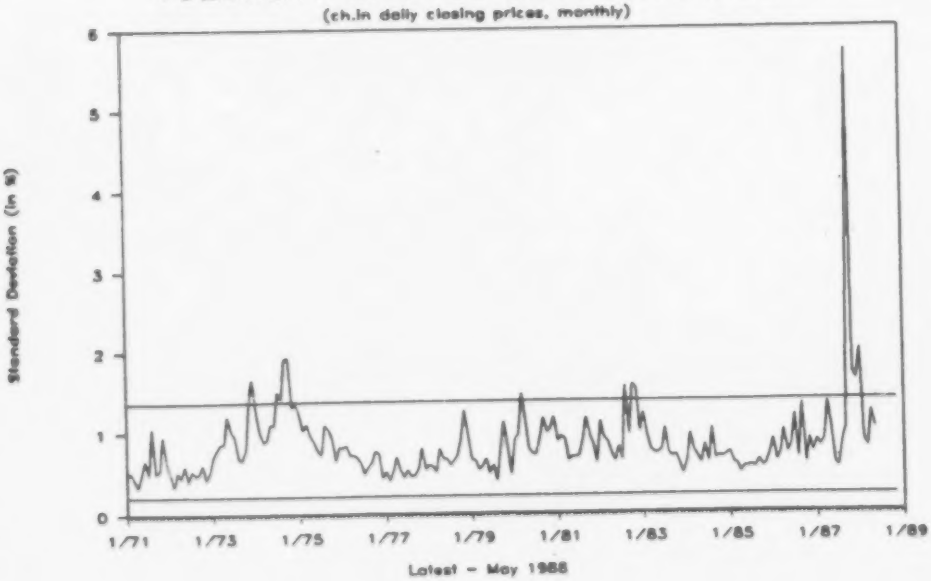
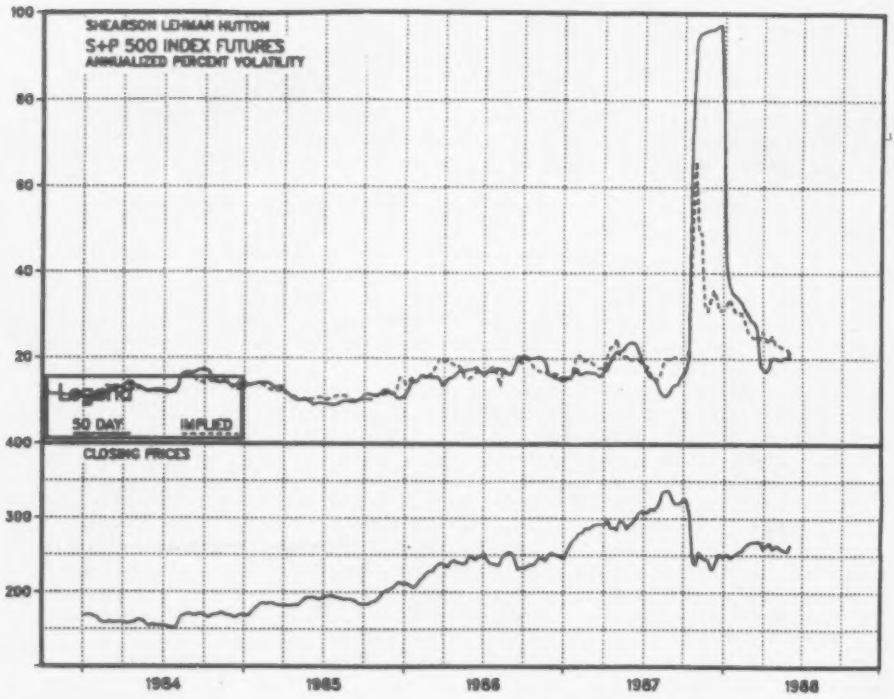


Figure 5

Implied and Past-50-Days Annualized Volatility

S&P 500 Index



May 19, 1988

The Honorable Donald W. Riegle, Jr.
Senate Bank Committee SD 546
Washington, D.C. 20510

Dear Senator Riegle:

I am a Michigan constituent and this letter represents my feelings and the feelings of hundreds of Michigan residents who either invest in the equities markets or are professionals employed in that industry. I understand that the President's Working Group will be testifying before your committee on May 24, 1988. I request that you bring this letter to the direct attention of the Working Group, specifically, Alan Greenspan, David Ruder, Wendy Gramm, and George Gould.

In his testimony before a House subcommittee today, Mr. Greenspan gave his endorsement to program trading and said it would not be advisable or constructive to curb the influence of these derivative products on the traditional equities markets. He stated that studies do not conclusively prove that the use of index futures have contributed directly to the instability in the equities market. These remarks seem ill-considered.

Rather than simply using these products to "hedge" portfolios, as Mr. Greenspan indicates, it is obvious to me and thousands of other professionals who work in the marketplace daily, that a small number of traders are using these "derivative" products to their own advantage, leaving a wake of market chaos and fear as they go. These products have brought all the highly speculative and volatile elements of the commodities markets into the equities markets. The traditional investor in the equities market neither wants nor can tolerate these elements. And he or she should not have to endure them. Distinct boundaries have always existed between these two very different markets. Now, the futures markets are threatening to overwhelm the equities markets, driving the equity investor out of his own market. The bullies have taken over the neighborhood!

Mr. Greenspan feels that to curb the influence of these products would destabilize the markets. Why? It is obvious that stability returned to the markets only <u>after</u> limits were set a few months ago. Mr. Greenspan feels that since we have the technology, we should use these programs to whatever extent is possible. We also have the technology to use nuclear weapons at will; yet no one would argue that since we have the technology, we should, ipso facto, use nuclear weapons indiscriminately. That reasoning is fallacious and self-destructive: so is Mr. Greenspan's.

By endorsing these programs, Mr. Greenspan is failing in his public trust; his remarks are a morass of rhetoric which blur the obvious facts: program trading has exceeded its initial and legitimate use (portfolio hedging). It is now being used by a handful of traders, with sophisticated, computer driven models - and huge amounts of capital - to hold the traditional equities

markets and the traditional equity investor hostage to the speculative and volatile elements of the commodities markets.

There are those who defend the use of index futures in program trading out of an obvious conflict of interest. Mr. Greenspan's remarks are discouraging because he has no such vested interests. We expect that the foxes would argue against putting a padlock on the henhouse. It surprises us when the farmer agrees with them.

I have tried to be brief. I hope you can communicate these feelings and perspectives in full to the President's Working Group. I believe they represent those of the overwhelming majority of investors and professionals in the equities markets.

Sincerely,

D. Eric Dawe
1629 Cooper
Lansing, MI 48910

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